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## Ghana

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### Ghana Cashew Nut Industry is Growing

**Report Categories:**

Tree Nuts

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**Report Highlights:**

The fruit of the cashew tree is a kidney or boxing-glove shaped [drupe](#) (nut) that grows at the end of the expanded pedicel known as the cashew apple (oval pear-shaped). The drupe is what is referred to as the Raw Cashew Nut (RCN). The RCN has within the outer shell the edible kernel or nut which is soft, white and meaty in raw form. When roasted it changes color and taste. Salted, it appeals to the palate as a most delicious nut. The cashew apple ripens into a yellow and/or red structure about 5–11 cm long. It is edible, and has a strong "sweet" smell and a sweet taste. The pulp of the cashew apple is very juicy, but the skin is fragile, making it unsuitable for transport.

Ghana exports over 98 percent of its cashews as Raw Cashew Nuts (RCN). For MY2011 Ghana exported 280,834 MT of RCN valued at US\$ 379 million, up from 82,732 MT in MY 2010. RCN is mainly exported to India and Vietnam for further processing. The remaining 2 percent is processed into raw cashew kernels, which is exported in bulk. Very small quantities of the raw kernels remain in Ghana, which then is roasted and sold domestically. Post forecasts a 5 percent increase in the production of RCN to 49,000 MT for MY 2012, up from 47,000 MT in MY 2011. However this

projection could be higher due to the movement of RCN into Ghana from neighboring countries, especially the Ivory Coast and Burkina Faso, which is especially difficult to quantify.

### **Executive Summary:**

Cashew production and processing in Ghana is growing due to high demand from a flourishing export market. Production is mostly carried out by smallholder farmers (88%), who are generally organized into associations. In MY2011, total raw cashew nuts (RCN) exports were 280,834 MT valued at US\$ 379 million up, from 82,732 MT in MY 2010. RCN is mainly exported to India and Vietnam where they are processed into plain kernels which are then exported in bulk to markets in developed and emerging countries. Ghana exports over 98 percent of its cashews as Raw Cashew Nuts (RCN). The remaining 2 percent is processed into raw cashew kernels and over 95 percent of raw cashew kernel is exported in bulk. In 2011 RCN exports contributed to 6.1% of GDP and to 18.2% of agricultural GDP (Ghana Statistical Service). Very small quantities of the raw kernels are roasted, salted/seasoned, packaged and labeled/branded and retailed in the domestic market in Ghana's hotels, supermarkets and restaurants and retail shops. Domestic demand for cashew kernels is currently estimated at over 50 MT per year.

Post forecasts a 5 percent increase in the production of RCN at 49,000 MT for MY 2012, up from 47,000 MT in MY 2011. However, export data for RCN has been higher than actual estimated production figures of RCN over the years. For instance in MY 2011, RCN exported from Ghana was a record high of 280,834 MT although domestic production in Ghana was estimated as 47,000MT.

According to the Government of Ghana (GOG) sources, higher export numbers for RCN are due to imports of RCN from neighboring countries, especially the Ivory Coast and Burkina Faso.

Most cashew nut processing enterprises in Ghana are small-scale, processing less than 500 tons, with only one medium scale (500-1000 tons) operation. There are no large-scale (more than 1000 tons) processing plants

### **General Information:**

**Table I. Production of Raw Cashew Nut (RCN) in MT (2006-2012)**

Year	2006	2007	2008	2009	2010	2011	*2012
Area (Ha)	59,000	60,000	66,000	69,000	72,000	73,000	73,000
RCN Production(MT)	16,152	19,254	22,526	26,925	27,973	47,000	49,000
**RCN imported	31,962	19,298	39,590	44,177	55,732	242,732	100,000
Total Production	48,114	38,552	62,116	71,102	83,705	289,732	149,000

Source: Cashew Unit - Ministry of Food and Agriculture, Technoserv, USAID West Africa Trade Hub

\*Projections

\*\*RCN imported from Ivory Coast/Burkina Faso. .

### **Crop Area**

Post forecast for cashew crop area in MY 2012 is 75,000ha, up from 73,000ha in MY 2011. This increase is due to the GOG commitment to make land available to farmers interested in cultivating

cashew. The estimated crop area for the cultivation of cashew has expanded from 59,000 ha in MY 2006 to 73,000ha in MY 2011. Cashew is grown as a smallholder crop in Ghana and the commercial plantations sector is very small. It is estimated that about 88 percent of cashew farms are owned by smallholders, with farms ranging in size from a minimum of 0.8 ha to 3.0 ha. Large plantations account for 12 percent of cashew farms and are sized between 4 ha to 40 ha. Cashew plantations are integrated into the traditional mixed-farming system. During the first three years of ea new cashew plantation, the actual area covered by the young trees is negligible, leaving a lot of space for intensive inter-cropping with short cycle annual food crops.

### **Cashew Nut Production (RCN)**

Post forecasts a 5 percent increase in the production of Raw Cashew Nut (RCN) in MY 2012 to 49,000 MT, up from 47,000 MT in MY 2011. This forecast is due to favorable weather conditions (adequate temperature and timely rains) and continuous Government of Ghana (GOG) support for the cashew sector. GOG sources indicate the government plans to more than triple cashew-nut production within the next 10 years. The GOG sources indicated cashew yields could increase with the practice of improved management practices such as regular pruning, selective thinning, effective farm sanitation, pest and disease control, rehabilitation of old unproductive trees, improved cashew nuts collection and more market information. Six years ago the GOG supplied producers with high yielding dwarf cashew seed varieties from Brazil and intend to continue investigating Indian and Brazilian sources where excellent high-yielding varieties are available.

Over the past few years RCN imports from neighboring countries (the Ivory Coast and Burkina Faso) have increased, contributing to increased total RCN production in Ghana. In MY 2011 the total RCN production in Ghana hit a record high at 289,000MT due to imports of over 242,000MT.

Although the cashew tree can withstand high temperatures, a monthly mean temperature of 25 °C is regarded as optimal. High temperatures lead to early flowering. In Ghana cashew trees blossom between November and January when the weather is dry and temperatures are high. A dry spell during flowering and fruit setting ensures a better harvest. Cashew trees cannot withstand too much rainfall. Cashew trees grow best in most parts of Ghana where the average annual rainfall is 1000-1500 mm per year. Cashews are not grown in the Western region of Ghana due to its higher rainfall. Cashew yields drop after heavy rains at the blossoming and harvesting stage. Heavy rainfall during the flowering season damages the flowers, as they become infected with mildew and anthracnose. Also, rainfall during the harvesting season can cause the nuts to rot or cause the fallen nuts to germinate.

Young cashew trees generally start bearing fruit in the third to fourth year after planting with average yields at 90-100 kg/ha, gradually increasing to about 800-1,200 kg/ha of RCN in 10 to 12 years (grafted trees and seedlings). In Ghana the average estimated yield for matured cashew trees is 200kg/ha, of RCN per hectare among small holder producers. Low yield levels are due to poor varieties, old trees, too wide spacing and poor management practices. However, through the use grafts from elite mother trees, cashew plantations productivity could potentially be raised from the present level of 200kg to about 800kg/ha. Currently, the higher average yields of 350kg/ha to 650kg/ha has been estimated (MOFA sources) for RCN obtained from improved seedlings/grafted types planted on commercial plantations. Although the cashew tree can reach an age of 50 to 60 years, most trees produce high yields

of nuts for the first 15 to 20 years after which yields start to drop.

The fruit of the cashew tree is a kidney or boxing-glove shaped [drupe](#) (nut) that grows at the end of the expanded pedicel known as the cashew apple (pear-shaped). The drupe develops first on the tree, and then the pedicel expands to become the cashew apple. The drupe is what is referred to as the Raw Cashew Nut (RCN). The RCN has within the outside shell the edible kernel or nut which is soft, white and meaty. The cashew apple ripens into a yellow and/or red structure about 5–11 cm long. It is edible, and has a strong "sweet" smell and a sweet taste. The pulp of the cashew apple is very juicy, but the skin is fragile, making it unsuitable for transport.

The major challenges in the cashew sector are: a lack of improved seed varieties, high incidence of insect pests and diseases (mildew and anthracnose), weak extension services, and weak farmers' associations. Ghana has no seed company that produces and supplies cashew seed/grafted seedlings. The varieties currently grown by the farmers are unknown as the acquisition and distribution are through farmer to farmer exchange, generally using stock from old plantations. There is also the lack of access to land for expansion of the cashew crop.

## Cashew Processing

**Table 2. Raw cashew processed in MT 2006-2012**

Year	2006	2007	2008	2009	2010	2011	*2012
RCN processed(MT)	152.15	254.32	526.08	925.43	973.46	9,000	9,000
Kernels produced(MT)	30.47	46.35	86.66	182.33	392.13	1,900	2,000

Source: Ministry of Food and Agriculture, Technoserv, Ghana Shippers Council.

Processing of RCN involves recovery of the edible meat portion, (the kernels) from RCN by manual/mechanical means. It includes cleaning, moisture conditioning, roasting, shelling, drying, peeling, grading, kernel conditioning, and packaging. Although the cashew apple is consumed to a limited extent in Ghana as a fresh 'fruit' most of the cashew apples collected during the harvest are lost because they are not processed.

Currently less than 2 percent of RCN produced is processed locally in Ghana. Post forecasts that RCN processed in MY 2012 as 10,000MT up from 9,000MT in MY 2011. The RCN is processed to obtain the cashew kernels (primary product) which are mostly exported in bulk. There are twelve (12) RCN processing enterprises in Ghana, with an estimated capacity of 2,137 tons per year and they process RCN to obtain, cashew kernels. According to MOFA at the end of 2011, these companies had the capacity to process about 3.5% of all RCN exported. The majority of these processing companies are small-scale, processing less than 500 tons per year and only one is medium-scale (500-1000 tons/year). There are no large-scale (more than 1000 tons/year) processing plants. The medium size processor produces almost all exportable supplies of kernels.

Kernels from small-scale processing plants are sold to local roasters for secondary processing. Less than 5 percent of the kernels produced are roasted and consumed in Ghana. There are twenty one (21)

cashew kernel roasting companies operating in different parts of the country. The kernels are roasted, salted/seasoned, packaged and labeled/branded and sold in domestic market in Ghana's hotels, restaurants, supermarkets and in retail shops. Local demand for cashew kernels is currently estimated at over 50 MT per year. During the cashew harvesting season (February-May) each year, the processing companies ensure that substantial quantities of nuts (of the necessary quality) are procured.

Other products obtained from the processing of RCN apart from the kernels include cashew butter and cashew nut shell liquid, which have industrial uses.

The challenges facing the cashew processing sector are: the lack of skill and the capacity to handle the large volumes of RCN required for the export market, an inconsistent supply of raw cashew nuts, and high transportation costs.

### Consumption

The RCN is collected and when roasted and salted, it appeals to the palate as a most delicious nut. The cashew apple ripens into a yellow and/or red structure about 5–11 cm long. It is edible, with a strong "sweet" smell and taste. The pulp of the cashew apple is very juicy, but the skin is fragile, making it unsuitable for transport so most consumption occurs in nearby communities.

Ghana's roasted cashew kernel consumption is gradually increasing. Local demand for roasted cashew kernels is currently estimated at about 50 MT per year, while production is only about 42 MT (CDP, 2010). In Ghana the roasted kernels are usually salted/seasoned, packaged and labeled/branded as cashew nuts. The roasted cashew kernels are mostly sold domestic market in Ghana's hotels, restaurants, supermarkets and mini marts and retail shops in the major cities in Ghana. The sale of roasted cashew nuts out in the open market and on the streets is very limited. The cashew nuts are generally packaged into 35g and 50g packs. Others package roasted nuts in jars. The retail price of a 50g roasted and salted cashew nut package is GHC2.00 (\$1.05). According to the "Cashew Processing, Marketing and Consumption in West Africa" (USAID 2007) study the average retail price of locally processed cashews is the highest in all cashews in the market place. If prices cannot be reduced significantly, the local market for cashews will be dominated by imports.

Cashew apples and cashew nuts are excellent sources of nutrition. The cashew apple contains vitamin C, calcium, iron and vitamin B1. The oily shell liquid contains 21 percent of vegetable protein. The kernels have a higher percentage of unsaturated fatty acids. Although oil extracted from the shells is caustic and can burn the skin it has industrial application. The cashew tree is said to purify the environment by reducing the carbon concentration.

### Trade (Raw Cashew Nuts)

**Table 2: Raw Cashew Nuts (RCN) exported in '000MT and value in million dollars**

Year	2006	2007	2008	2009	2010	2011	2012
RCN exports( MT)	48	38.30	61.6	70.2	82.7	280.8	200
Value in dollars	23.98	21.00	45.37	42.10	65.91	379.12	----

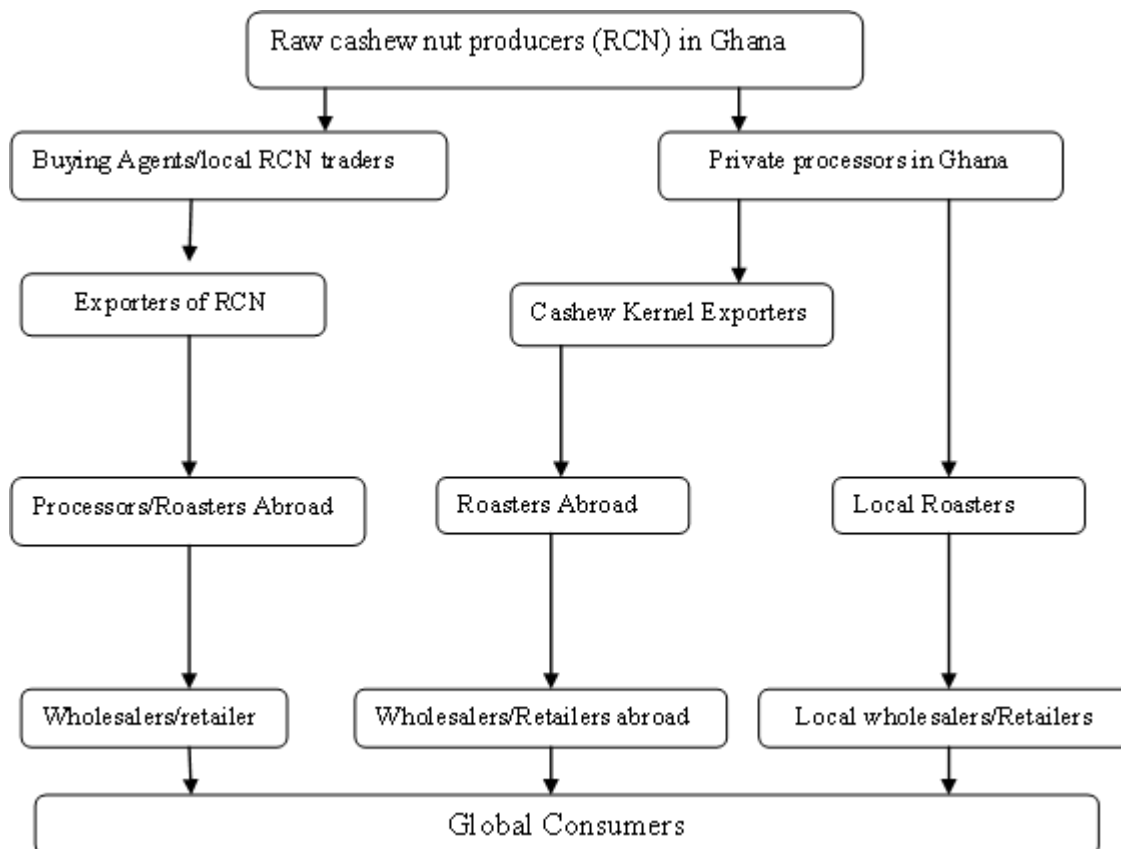
**Sources:** Ministry of Food and Agriculture, Technoserv, Ministry of Trade, USAID(West African Trade Hub).

Cashew is exported in two forms as the Raw Cashew Nuts (RCN) and the primary processed raw kernels. Currently, Ghana exports over 98 percent of Raw Cashew Nuts (RCN) that is produced. About two percent is processed locally into raw kernels of which over 95 percent is also exported. Ghana in MY2011, exported raw cashew nuts (RCN) at a record high of 280,834 MT valued at US\$ 379 million up from 82,732 MT in MY 2010. However the local RCN in MY 2011 was 47,000MT which is lower than the RCN exported due to cross border trading between Ghana and neighboring countries (Ivory Coast and Burkina Faso). Post forecasts RCN exports in MY 2012 as 200,000MT down from 280,000MT in MY 2011 due to the uncertainty of movement of RCN into Ghana. It is possible that trading of RCN between Ghana and its neighboring countries will continue at similar levels but could easily change.

The quality of RCN required is not clearly defined. It is expected that high quality nuts should 1) be free from disease and pests; 2) have proper post harvest handling (e.g. drying and storage) and 3) been properly graded for quality. To export cashews one the Ghana Cocoa Board Quality Assurance Certificate is required. There is however, no price regulation, nor export tax on raw cashew nuts and raw kernels.

RCN trade occurs between February and May of each year, without much structured organization. Since this is an activity restricted to only four months in the year, there are no exclusive traders for raw cashew nuts. Presently there are 13 cashew buying companies in Ghana, nine of these are local companies, and four are foreign mainly Indian.

### **Flow Chart of Marketing Channels in the Cashew trade**



Source: Ministry of Food and Agriculture, Technoserv, Ministry of Trade, West African Trade Hub

The marketing channel of RCN consists of producers, village merchants/agents and exporters. The local agents of exporting companies purchase RCN and raw kernels from designated GOG marketing centers at agreed prices. The agents also buy RCN directly from known cashew farming communities. The buying companies/agents then sell the RCN and the raw kernels directly to the few exporters available. RCN is mainly exported to India and Vietnam where it is processed into plain kernels which are then re-exported in bulk to markets in developed and emerging countries. Often, there are other intermediaries or agents between traders, exporters and processing companies who provide information services and make deals. These middlemen play an important role in the marketing of RCN, and are seen as reducing the margins for cashew farmers.

**Table 3. Producer and export price in USD per MT**

YEAR	Average producer price of RCN/Ton in US Dollars	Range of International Export Price (US\$/Ton)
2006	\$194.7	\$500-\$800
2007	\$168.4	\$550-\$600
2008	\$247.4	\$700-\$900
2009	\$262	\$500-\$600
2010	\$526	\$800-\$1000

2011	\$736.8	\$1300-\$1400
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**Source: Ministry of Food and Agriculture**

Prices of RCN and raw kernels vary widely from place to place, from season to season, and even within the same season. The producer price is a function of many factors, the most important of which are international cashew supply and demand dynamics, domestic market conditions, as well as the efficacy of the regulatory mechanism and the tax/levy structure for the agricultural sector (MOFA CDP report 2010). Cashew pricing at the farm gates and village markets is largely determined by buyers. Farmers are unable to negotiate prices with traders who come to their village. They can only decide whether or not to sell at the price offered. However the average producer price of RCN has steadily been increasing in the last few years. In 2011 the average producer price for RCN per MT was US\$ 736.8 about 28.6 percent increases in 2010. Similarly the export price has also been growing and in 2011 the export price for RCN per MT ranges between \$1300 and \$1400. The average producer and export prices of raw kernels are similar to that for RCN.

## **POLICY**

### **Government Interventions**

The Government of Ghana (GOG) established the Cashew Development Project (CDP) which commenced in 2001 and operated for six years, with the aim of improving and increasing cashew production in Ghana. The project was financed with a loan of \$12.83 million sourced from the African Development fund. The project provided extension and training in improved crop management practices and provided credit to producers. In addition other institutions supported by donors also complemented the GOG efforts by providing training on improved cashew production management, and business management to producers and extension workers. These other institutions include the USAID-West African Trade Hub; Ghana Export Promotion Council (GEPC); USAID-Trade and Investment Program for a Competitive Export Economy (TIPCEE); African Cashew Alliance (ACA); Advent Development Relief Agency (ADRA); and Technoserve. Through collaboration between CDP, ADRA and TIPCEE, cashew farms are being mapped using Geographic Information Systems technology. This farm mapping is primarily aimed at facilitating extension delivery and forecasting yields.

Very little research has been undertaken on cashew production in Ghana. However the Cocoa Research Institute in Ghana (CRIG) has been mandated by the GOG to undertake cashew research. However, some of the Universities and the Council for Scientific and Industrial research (CSIR) have also initiated limited cashew research activities.

### **Export Requirements**

The GOG has categorized all export commodities into 2 main groups: Traditional Exports and Non-traditional Exports crops. Cashew is a non-traditional export crop. The GOG requires that all companies involved in exports of food commodities must register the company with the Registrar-General's Department and the Ghana Export Promotion Council and obtain a number. In addition to export cashew one requires the Ghana Cocoa Board Quality Assurance Certificate. There is however, no price regulation, nor export tax on raw cashew nuts and raw kernels.

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