



**INTERNATIONAL TRADE CENTRE
COMMON FUND FOR COMMODITIES**



**REGIONAL MEETING ON THE DEVELOPMENT OF
CASHEW NUT EXPORTS FROM AFRICA**

Organised by the International Trade Centre UNCTAD/WTO (ITC) and the Common Fund for Commodities (CFC), in collaboration with the National Export Council (Conseil National pour l'Exportation -CNEX)

**Hotel du Port - "La Marina", Cotonou, Bénin
23 – 26 JULY 2002**

**"CASHEW PRICING POLICY AND EXPORT TAXATION: THE INDIAN
EXPERIENCE"**

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**Project No. INT/W3/69
"Trade expansion in cashew nuts from Africa"**

This report was carried out on behalf of the International Trade Center UNCTAD/WTO (ITC) and was funded by the ITC Global Trust Fund under project INT/W3/69.

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CASHEW INDUSTRY - AN OUTLOOK

Cashew is a versatile, though paradoxical nut! Beginning as a poor man's crop, it ends up as the rich man's favourite snack-food all over the world.

Cashew production takes place mainly in the Central and South American Zone, Asia and Oceanic Zone and African Zones. There are 28 countries now involved in the production of cashew. The latest global production trend of cashew during 2001 is as follows: -

	Zone/countries	Raw nut production ('000 MT)
1	ASIATIC ZONE	
i.	India	375
ii.	China	15
iii.	Indonesia	30
iv.	Vietnam	140
v.	Others	94
	Sub Total	654
2	AFRICAN ZONE	
i.	Mozambique	30
ii.	Tanzania	93
iii.	Kenya	15
iv.	Benin	28
v.	Guinea Bissau	38
vi.	Ivory Coast	28
vii.	Ghana	8
viii.	Senegal	10
ix.	Madagascar	7
x.	Nigeria	75
xi.	Togo	2
	Sub Total	334
3	LATIN AMERICAN ZONE	
i.	Brazil	180
ii.	Others	10
	Sub Total	190
	Grand Total (Global)	1178

According to the above table, the total raw nut production in the world is around 1.18 million MT from a total area of 3.51 million ha. (The productive area is likely to be lower). The average global productivity is only around 500 Kg/ha., although in some countries the production figures are considerably higher because of location – specific reasons. In the case of Tanzania and Kenya for example, the higher productivity could be due to the larger spreading of the trees, on account of the sparse population of the countries concerned.

GLOBAL TRADE

Among 28 countries in the world involved in cashew production, 26 countries are actually engaged in production of cashew either for export or for their own consumption or for both export and domestic consumption.

The share of the Indian crop vis-à-vis world production for the year 2001 was 32% at 375,000 tons. The Brazil crop constituted 15% of the world crop at 1,178,000 tons.

WORLD CASHEW EXPORTS (MT)

COUNTRIES	1999	2000	2001
India	91124	89100	101200
Brazil	23386	32582	29700
Vietnam	21890	36740	33000
East Africa	4400	4400	400
Others	2200	2200	2200
Total	143000	165022	170500

From the above tables, it is apparent that out of the total production of 1.18 million tons only 0.41 million tons consist of kernel exports, while the remaining are either traded as raw nuts or processed and consumed within the producing countries themselves. In the global trade, only 24% of the total raw nut produced is exported in the form of cashew kernel, while 76% consists of unprocessed raw nut for export or for processing and consumption with the producing countries.

Consumption estimates, it is observed that the American Zone consisting of USA and Canada is the major consumer importing over 50% of the total cashew consumed in the world. While there has been a reduction in consumption in East European region there has however, been a steady increase in the West European sector. This gives an indication that these markets still remain to be tapped by the producing and exporting countries. A similar trend is also seen in South East Asia, Far East and other Asiatic and Oceanic Zone areas where there has been a 40% increase in imports, giving rise to the hope that cashew exporting countries can further seek to expand their markets in such areas.

INDIAN CASHEW INDUSTRY IN A NUTSHELL

India started its exports in the early part of 20th century with a small quantity of 50 MT which has increased almost to the level of 0.1 million MT by the end of the same century. Simultaneously the export earnings almost tripled during the last decade of the 20th century.

Cashew forms an important component of the basket of agricultural products exported from India.

Cashew was originally planted in India as a windbreaker and to prevent soil erosion. Its cultivation was also considered essential as tree cover in eroded hilly areas where reforestation programmes were under way, in order to prevent further erosion. Cashew cultivation in India is mostly confined to the Western and Eastern coastal areas of the peninsular region.

During mid1920's cashew processing was started in Kollam in Kerala on a commercial scale. The export of cashew kernels was a mere 45 tons in 1923. The import of raw cashew nuts from Portuguese Africa started only in the late 1930's.

ESTIMATED AREA & PRODUCTION OF CASHEW NUT IN INDIA

[Area: ha / Production: tons]

STATE	1998		1999		2000	
	Area	Production	Area	Production	Area	Production
Kerala	120000	100000	121600	80000	122200	100000
Maharashtra	103500	60000	118500	60000	131200	75000
Andhra Pradesh	124100	50000	126650	50000	130000	70000
Orissa	108600	45000	114100	20000	841000	25000
Karnataka	87000	35000	88800	20000	90500	25000
Tamil Nadu	80500	30000	83500	30000	85200	30000
Goa	52000	25000	53500	20000	54400	15000
West Bengal	9000	6000	9000	10000	9100	6000
Others	16200	9000	16500	10000	16700	4000
Total	700900	360000	732150	300000	723400	350000

The major cashew production in India is still from the State of Kerala, though the production from other states like Maharashtra, Andhra Pradesh, Orissa and Karnataka is increasing.

The Indian cashew industry has been heavily dependant upon imports which continues even now, to the level of 0.25 million tons. It is therefore of utmost importance to ensure that sufficient efforts are taken now to increase the production within the country. At present the demand of the industry is around 1 million tons as against the 2001 production of 0.375 million tons. One of the major constraints in the Indian cashew industry is the low level of productivity, though the situation has improved considerably of late, with the use of improved clones of high yielding varieties in the plantation sector.

IMPORT OF CASHEW NUT INTO INDIA DURING 1996-1997 TO 2000-2001

COUNTRIES	1996-1997		1997-1998		1998-1999		1999-2000		2000-2001	
	Qty (MT)	Value (Rs.Crs)	Qty (MT)	Value (Rs.Crs)	Qty (MT)	Value (Rs.Crs)	Qty (MT)	Value (Rs.Crs)	Qty (MT)	Value (Rs.Crs)
Guinea Bissau	15455	53.2	50522	160.5	188228	79.1	31231	156.4	56929	270.39
Ivory Coast	18096	52.0	32229	83.4	23085	80.2	39524	162.6	50219	189.87
Tanzania	64355	212.1	61311	211.0	108046	458.9	79209	417.4	50821	177.08
Benin	10213	32.3	16140	49.8	11680	39.4	23829	98.9	27239	105.61
Mozambique	28101	87.3	16895	48.9	28162	104.2	23508	105.9	20822	62.14
Indonesia	6862	22.8	32628	109.6	18829	71.9	20941	96.4	9178	38.76
Nigeria	14507	37.0	13220	34.4	7699	23.0	13001	45.7	10859	31.94
Senegal	1679	6.0	1818	5.9	6297	27.0	9360	46.3	6679	22.8
Kenya	1004	2.8	79	0.3	9428	40.6	6311	29.2	6382	21.88
Ghana	632	2.0	3725	11.3	1795	6.4	3198	12.9	3475	13.41
Togo	463	1.4	265	0.7	334	1.2	167	0.7	121	0.4
Singapore	44758	157.7	7608	22.8	246	1.1	360	1.5	0	0
Vietnam	0	0.0	4529	13.7	0	0.0	0	0.0	6179	0
Others	6741	21.0	6213	17.3	6732	25.0	2938	12.3	6004	25.8
Total	212866	687.6	247181	769.6	241161	958.0	253577	1186.2	249318	960.84
Million US\$		193.85		206.94		228.69		274.20		209.88

Brazil is the second largest supplier of cashew kernels to the world market. Now Vietnam has also emerged as a major producer and exporter of cashew kernels and is selling its produce to markets like Hong Kong, Taiwan, Japan, China, Malaysia, Singapore, Australia, USA etc. Vietnam, which used to export about 40000 tons of raw cashew nuts every year to India until a few years ago, has imposed restrictions on exports of raw cashew nuts by levying high export duty. Of late, both Brazil and Vietnam are competing with India in East and West African countries for purchase of raw cashew nuts.

The world over, cashew is recognized as a plantation crop, but unfortunately that is not the case in India. The main factor, which hinders establishment of viable and economic cashew gardens in plantation scale in the private/corporate sector, is the land ceiling laws prevalent in the cashew growing states. Hence, if India is to reach the desired levels of raw nut production, the first step should be to declare cashew as a plantation crop and exempt it from land ceiling laws.

Until the early 1970's, India had a near monopoly in the export of cashew kernels to world markets although she was by no means the only producer of raw cashew nuts. Increasing competition from other cashew kernel producing countries like Brazil, Vietnam, Tanzania, Mozambique etc. has affected India's exports of cashews. In addition, competition from other surrogate nuts like almonds, pistachios, hazelnuts, Brazil nuts, macadamia nuts and the promotional efforts taken on behalf of these tree nut sectors have affected the consumption of cashew worldwide. Further, non-tariff barriers imposed by major developed countries are also working as a deterrent for its growth.

It is pertinent to point out that even though India exports to over 60 countries of the world, about 50% of the exports are to USA and about 33% to European countries. Over-dependence on one or two markets is not at all desirable in the international trading of any commodity. The prime marketing strategy to be adopted should, therefore be, to strengthen the non-traditional markets by exploring new ones.

Economic and social significance of cashew nut

Cashew has gained significant social importance in India as a major foreign exchange earner bringing in foreign exchange of around US\$ 500 million per annum.

During 1994-1995 cashew earned the distinction of being the largest foreign exchange earner among the agricultural commodities exported from India, constituting over 1.5% of the total export earnings of the country. During 1996-1997, cashew's contribution was 1.1% of the total export earnings of the country.

This industry provides employment to rural poor as under:

In cashew processing factories	: 0.3 million
In cashew farms	: 0.3 million

Of which:

- Women workers : 95% ie., 0.57 million
- Economically backward communities : 50% ie., 0.3 million

Cashew processing

The traditional processing procedure of roasting the raw cashew nut, which is then shelled by hand, has largely been replaced by modern steam cooking methods where the nuts are cut open with small manually operated cutting machines.

This cooking in steam renders a white kernel, which gets a premium in the export market and also reduces the percentage of broken kernel. Installation of electric borma with proper temperature regulation systems to ensure uniform temperature of the hot air circulating within the borma is also in practice. Nearly 1100 processing units are currently in existence, with an estimated production capacity of 1 million tons of raw nuts.

- *DRYING OF RAW NUTS:*

Sun dried in yards, weight loss may vary from 3% to over 10% depending on time of harvesting and area of origin.

- *ROASTING / STEAMING:*

A.ROASTING

- i. Drum Roasting-Generally adopted method. Nuts passed through heated drum where it catches fire. Done for 2/3 minutes. Disadvantages are that shell oil is lost.
- ii. Oil Roasting-Dried nuts conditioned with water passed through a hot oil (Cashew Nut Shell Liquid – CSNL) bath by conveyer. The oil in nuts comes out. This method is at present generally not being used.

or

B.STEAMING

The dried nuts are steam cooked.

- *DECORTIFICATION:*

A.SHELLING – Roasted nuts have to be shelled by breaking shells with wooden mallets

or

B.CUTTING – Steamed nuts have to be cut with blades mounted on wooden tables.

- *DRYING OF KERNELS:*

Kernels are dried in a borma at temperatures between 90-100 degrees centigrade. Process takes 7-10 hours depending on nature of kernels. Subsequently these are cooled in a chamber.

- *PEELING:*

The testa is peeled off and initial grading by wholes, pieces and colour takes place.

- *GRADING:*

The kernels are graded by hand/sieve. CEPC specifications are adopted for grading export grades.

- *FILLING*

The graded kernels are:

- (a) Vita packed in 25lbs tins – after vaccuming and infusing carbon dioxide, or
- (b) Packed in 25lbs or 50lbs gas infused flexi packs.

- *PACKING:*

- (a) Two 25lbs tins are packed in a corrugated box.
- or
- (b) Two 25lb/one 50lb flexi pack/s are packed in a corrugated box.

MODERN PACKAGING OF CASHEW

Environmental protection groups in developing countries are bringing in restrictions on packaging materials to be used in export packaging. Conventional vacuum packaging provides protection against oxidation, prevents lots of aroma or flavours from escaping and impedes bacteria proliferation. Modern Vacuum Packaging (MVP) does even better, and further augments the barrier properties with its unique five-layer co-extruded barrier bag, comprising of components that are totally inert and non-migratory. In addition MVP is pesticide free, infestation resistant, contains no preservative and also does not require irradiation. The MVP barrier bag provides its users with “packaging integrity” and brings about improvements in productivity and sales. It also reduces manpower and energy consumption, is user-friendly and requires minimum space utilization for installation and stacking. MVP bags also present a neat and tidy appearance. Moreover, as they are palletised, they help in bringing about precious freight savings. It is no wonder that, considering all these advantages, more and more cashew processors in India have converted their packaging to MVP systems.

Value addition and by products of cashew

Though India is exporting to more than 60 countries of the world, over 99.5% of India’s cashews go in bulk packaging and as plain cashew kernels in 4- gallon prime tins or plastic containers with a net weight of 25lbs or 11.34kg flushed with carbon dioxide or nitrogen. It is quite unfortunate that even after 7 decades of experience in international trade in cashew kernels, exports of the commodity in value added forms/consumer packs constitute less than 0.5% of total exports per annum or in value terms less than US\$1 Million. Most cashews are either oil or dry roasted. They are marketed to the consumers in a mixture with other nuts, as 100% nuts and in confectionery products. Raw cashews are also sold in health food and dry fruits stores.

India currently has different varieties of cashew kernels including roasted and salted, sugar coated, spiced and masala fried. However no serious efforts have been taken by Indian exporters to market these types of products in branded consumer packs in foreign markets, mainly due to resource constraints.

Cashews are generally sold in raw or plain form, but the major use is in the form of roasted and salted cashews.

Value addition in the cashew industry can be evolved in three forms:

a. Incremental value addition to the commodity in its existing form itself.

b. Finding new uses: Programmes to promote cashew as a healthy, friendly nut, ideal as a snack food, with high calories and polyunsaturated fat contents have been initiated. Expanding the use of cashew kernel in sweets, biscuits and confectionary preparations is also being attempted.

c. Cashew is a versatile crop with unlimited potential for growth and exports. At present, the cashew kernels are the only item, which has been fully exploited commercially. Full utilization of cashew apple, Cashew Nut Shell Liquid, cashew testa and cashew shell will lead to higher realization of income for farmers and cashew processor-exporters.

The cashew apple is said to have many medicinal values. There are prospects for setting up more units for utilization of cashew apple, which is at present mostly wasted. Many preparations like juices, jams, candies, pickles, chutneys and alcoholic beverages can be prepared from cashew apple. Cashew apple is also used for producing organic manure.

Cashew Nut Shell Liquid (CNSL) is a by-product of cashew processing industry. It is a versatile industrial raw material which has applications in polymer based industries such as friction linings, paints and varnishes, laminating resins, cashew cements, polyurethane based polymers, surfactants, epoxy resins, foundry chemicals and intermediates for chemical industry.

Cashew testa can be commercially utilized for manufacturing 'tannin' which has got usage in leather processing.

The cashew shell after oil extraction, can be used for making heat-resistant 'particle boards', a substitute for plywood, 'nuwood' etc.

d. Developing new products and applications: Research institutions have been entrusted R&D projects to develop new end-products based on broken and lower grade cashew kernels. Another project is in progress for developing transparent resins from Cashew Nut Shell Liquid.

CASHING IN ON CASHEW

Cashew nut being a healthy, well-balanced and natural nut, there are several good reasons why small-scale growers and farmers should get involved in cashew cultivation.

- Cashew kernels are a high value luxury commodity with sales growing at a steady 7% each year and there is every likelihood that the market will continue to remain strong.
- There is substantial potential to exploit cashew by-products, such as cashew butter from broken nuts, cashew nut shell liquid (CNSL) for industrial and medicinal purposes and the juice of the cashew apple that can be processed further.

- Cashew is a good crop for smallholder farmers. In Mozambique cashew is considered by smallholder farmers to be one of their most lucrative crops. It requires few inputs and its harvesting does not clash with peak labour demands for other food crops.
- Cashew has the potential to increase the incomes of poor farmers, to create employment opportunities during harvesting and processing, and to increase exports.

The cashew kernel is a rich source of fat (47%) and protein (21%) as well as of calcium, phosphorous and iron. It has a high percentage of polyunsaturated fatty acids, especially the essential fatty acid linoleic acid. The tart apple provides vitamin C, calcium and iron.

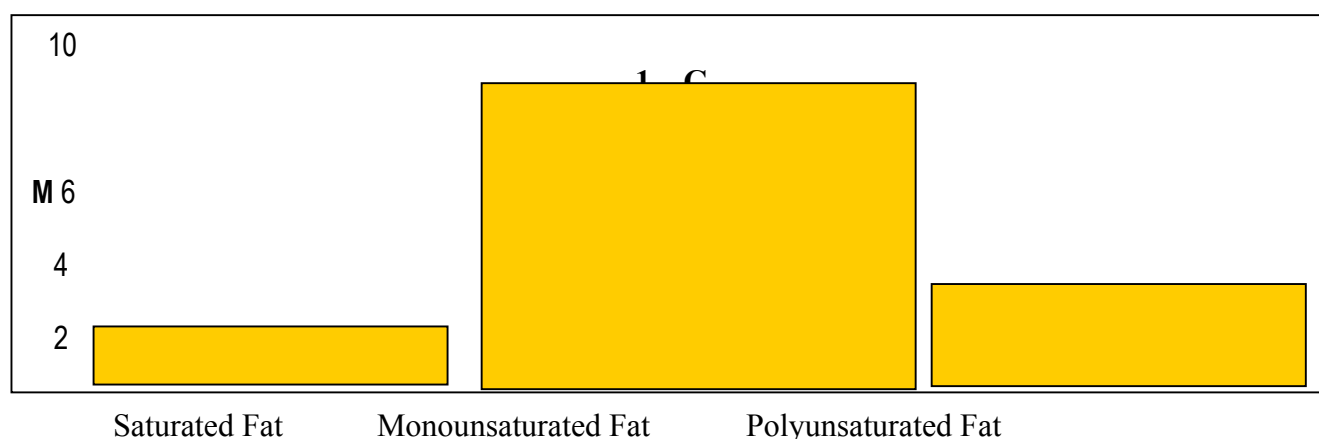
The bark, leaves, gum and shell are all used in medicine. The leaves and bark are commonly used to relieve toothache and sore gums, and the boiled water extract of the leaf or bark is used as a mouthwash. A paste of bark ground in water is applied to the skin to cure ringworm; however, in this form it can irritate the skin and should not be applied to sensitive skin or on children. The root has been used as a purgative. Fibres from the leaves can be used to strengthen fishing lines and nets, and as folk remedies for calcium deficiency and intestinal colic, as well as a vitamin supplement. The water-resistant wood is used for boats and ferries, while the resin, in addition to having industrial uses, is used as an expectorant, cough remedy and insect repellent.

The cashew kernel is made up of three different portions – the shell, the kernel and the adhering testa. The primary product of cashew nuts is the kernel, which is the edible portion of the nut and is consumed in three ways:

- Directly by the consumer;
- As roasted and salted nuts;
- In confectionery and bakery products; for example, finely chopped kernels are used in the production of sweets, ice creams, cakes and chocolates, both at home and industrially, and as paste to spread on bread.

Cashew is a unique combination of fat, proteins, carbohydrates, minerals and vitamins. Cashew contains 47% of fat, but 82% of this fat is unsaturated fatty acids. The unsaturated fat content of cashew not only eliminates the possibility of the increase of cholesterol in the blood, but also balances or reduces the cholesterol level. Cashew also contains 21% proteins and 22% carbohydrates, and a right combination of amino acids, minerals and vitamins. As such, nutritionally it stands at par with milk, eggs and meat. As cashew has a very low soluble sugar content of 1%, the consumer of cashew is privileged to get a sweet taste without having to worry about excess calories. Cashew nuts do not lead to obesity and can even help to control diabetes. In short, it is a good appetizer, an excellent nerve tonic, a steady stimulant and a body builder. Like all plant products, cashews are cholesterol free.

Raw cashews are also sodium free, and contain 7% of the recommended daily value for dietary fiber per serving. They contain small amounts of thiamin, riboflavin, niacin and folic acid. As indicated in the charts below, cashews have an excellent fat composition, and are a good source of iron, phosphorous and magnesium. A serving provides 150 mg. of potassium.



Fats and Calories in Nuts

Nuts (1 OZ. Edible Portion)	Calories	Total fat (g)	SFA (g)	MUFA (g)	PUFA (g)
Almonds (-24 nuts)	167	14	1	10	3
Brazil Nuts (-8 med)	186	19	5	7	7
Cashews (-18 nuts)	160	13	3	8	2
Hazelnuts (Filberts) (-5 nuts)	188	18	1	15	2
Macadamias (-12 nuts)	200	19	2	16	0.6
Peanuts (-46 nuts)	164	13	2	7	4
Pistachios (-47 nuts)	164	13	2	9	2

All values are for dried or dry-roasted nuts unless specified. Grams are rounded off (Abbreviations: SFA=Saturated fatty acids; MUFA=monounsaturated fatty acids; PUFA=polyunsaturated fatty acids; g=grams; ~=approximately)

However, as with all small-scale processing operations, cashew processing is not without attendant risk or problems. For the small-scale processor to succeed, there are certain constraints which need to be addressed:

- Since cashew production is very weather dependent, supply is variable. World prices, although stable on average, are highly volatile in the short term.
- Luxury goods must necessarily be of high quality. To compete directly and successfully in world markets requires standards, branding and marketing strategies of a high level.

- Exploitation of the by-products requires new technology, which may be expensive or difficult to obtain.
- The production volume must be sufficient to ensure consistent supply of raw material.

These constraints are not insurmountable. With sustained and committed support from local governments, introduction of policies that favour rather than hinder the small-scale entrepreneur, and back-up from relevant development organizations, cashew processing can be an attractive and viable option for the small-scale processor.

ORGANIC CASHEW

Of late, there is a growing shift towards organic food items as a result of greater awareness of both health and the environment. This has led to the growth of organic farming. India, which enjoys a premier position in the world cashew trade, has the potential to take up organic cashew farming in a big way and thereby boost the country's exports. Though most of the cashew grown in India is organic, to be certified as organic, it has to be certified so by designated bodies.

QUALITY UPGRADING

Realizing the growing level of concern about food safety and quality specifications, the Cashew Export Promotion Council has established a Quality Upgrading Laboratory and Technical Division of international standards. This test laboratory is engaged in doing quality analysis of cashew kernels and allied products and is also providing consultancy in processing, packaging, ISO/HACCP procedures and training.

There are 33 different grades of cashew kernels of which 26 are commercially available and exported. Currently cashew kernels are primarily used as a snack food item in the roasted and salted form. The broken cashew kernels are mainly used in confectionery, bakery and chocolate industries.

MAJOR REASONS FOR DECLINE IN PRICE DURING 2000

Over dependence on one or two countries affected the industry's capacity to bargain for better prices even with a quality product.

A combination of sluggish demand and a weak Euro saw the cashew prices fall sharply from around 270 cents in January 2000 to around 180 cents in December 2001. The high prices in the previous year had forced salters to increase their shelf price, which in turn resulted in drastic fall in consumption. The fall of Euro in the beginning of the year 2001 made cashew prices appear even more unattractive to the European buyers. A combination of all these factors caused a sharp downward pressure on cashew kernel prices. The recent surge of Euro is a welcome sign.

Most salters and importers are of the view that current prices are very attractive and promoters have already taken efforts to sell more in the U.S. It is hoped that at these prices, consumption will be pushed up in the near future.

RECOMMENDATIONS

As there are no well-established Indian brands, generic promotion will have to be undertaken in association with other cashew exporting countries, highlighting the health and nutritional values

of cashew. Most consumers in the developed countries are very conscious of these aspects of the foods they consume. Therefore the public perception of nuts as a source of harmful fats has to be countered and it has to be driven home to them that the fat content in cashews has a beneficial effect on human health.

Cashew holds only 7-8% of the world tree nut consumption. This needs to be increased to about 15% by 2005 through joint generic promotional efforts.

Specific quality improvement programmes need to be implemented particularly in post harvest stages in African and other countries.

Sustaining the relationship with the buyers in the traditional and established markets and strengthening the non-traditional/new markets could be achieved by the major kernel exporting countries through quality, reliability of supply and stressing the nutritional and health values of cashews including organic cashew and new applications.