

Review

Status of cashew production and potential for expansion in Uganda

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Cashew (*Anacardium occidentale* L.) is a tropical nut tree crop, it is a source of food, income, industrial raw materials and foreign exchange for many countries of Africa, Asia and Latin America. Here we present the status of cashew production, research efforts, achievements, constraints and areas of possible improvement in Uganda by considering 45 years of data. We suggest possible areas of improvement to

enhance the development of cashew sector. Our recommendations include promotion of improved cashew varieties, best agronomic practices, value addition and effective policy for promoting its competitiveness.

Key words: Cashew, research, production, value addition and constraints

INTRODUCTION

With the increasing need to diversify the export base, the government of Uganda undertook specific initiative to promote cashew (*Anacardium occidentale* L.) growing in the early 1970's. This initiative aimed at creating cashew export industry in Uganda was supported by the Food and Agriculture Organisation (FAO). From 1972 to 1978, the government of Uganda developed the capacity of farmers in seedling production, growing and harvesting of cashew nuts (NAADS, 2004). Pure stand orchards totalling to 60 ha (40 ha in Ongom, -Lira district; 10 ha in Odina-Soroti district and 10 ha in Kiige-Kamuli district) were established in a bid to promote sustainable supply of quality seeds (NAADS, 2004).

In 1978, the government of Uganda purchased a

cashew nut processing plant from the Sturtevant manufacturer with the financial support from the Food and Agriculture Organisation (FAO) under the project code UBA/74/007. However, due to the political turmoil in the country around late 1970's, the machines were not installed, the orchards were abundant and no commercial harvesting was initiated as earlier on planned by government (NAADS, 2004). Thus, the local people began collecting and processing cashew nuts locally for their home consumption.

In 1991, the government commissioned a study through the Uganda Commercial Bank to review the cashew sector with the hope of being commercialised. The findings revealed that, it was a worthwhile venture for the nation. Thereafter, the cashew sector

was revived by incorporating a formal Cashew Nut Company Limited to run all the affairs of the cashew enterprise (NAADS, 2004).

In 2005, the cashew sector was again liberated by the Regional Cashew Improvement Network for Eastern and Southern Africa (RECINESA) through the funding from the Common Fund for Commodities (CFC) (Esegu *et al.*, 2013). The essence of funding the cashew enterprise in the region was to boost its production by addressing the production constraints. In Uganda, the old neglected tree stands were rehabilitated; cashew farmers were trained and equipped with skills in all aspects of cashew production and management (Esegu *et al.*, 2013). Consequently, production increased from 3 kg to 10 kg per tree annually and approximately 55,000 additional trees were planted in different parts of the country raising the tree population to about 150,000 trees (2,000 ha) (Esegu *et al.*, 2013). Using the above (Figure 1), we estimated cashew nut production to be at approximately 1,500 tonnes during the year 2012. The estimated production is far less than what was produced in the same year for the two neighbouring countries that is, Kenya (29,026 tonnes) and Tanzania (122,274 tonnes) (FAOSTAT, 2013).

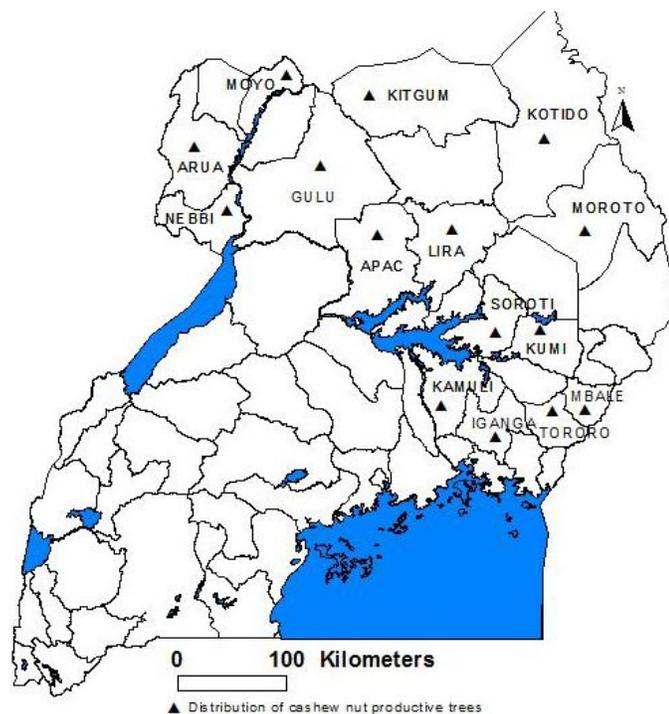


Figure 1. Map of Uganda showing cashew growing districts. Source: (NaFORRI, 2014 unpublished).

METHODOLOGY

We reviewed literature on history of cashew, research and development initiatives, the opportunities and challenges in the sector within Uganda. Compared cashew production status in Uganda with the neighbouring countries that is, Kenya and Tanzania. We used the findings to suggest possible areas of interventions for improving the growth of cashew sector in Uganda.

CURRENT SCENARIO OF CASHEW INDUSTRY IN UGANDA PRODUCTION

Cashew growing has been adopted by small-scale farmers and being grown mostly in homestead boundaries, in hedge rows and at times intercropped with other agricultural crops (Esegu *et al.*, 2013). Currently, cashew growing is being practiced in the districts of Iganga, Mayuge, Tororo, Kamuli, Pallisa, Budaka, Namutumba, Bugiri, Busia and Mbale (eastern region) and Kumi, Bukedea Soroti, Lira, Amuria, Abim, Oyam, Nakapiripirit, Dokolo, Amolatar, Kaberamaido, Apac, Gulu, Kitgum, Nebbi, Moyo, Amuru, Arua, Moroto and Kotido (northern region). More recently, the demand for cashew products has caused farmers to increase the acreage planted with the support from farmer groups, NaFORRI and RECINESA such that the current average is 10-20 trees per farmer compared to 3 to 5 cashew old trees which used to be the average among the cashew farming communities (Esegu *et al.*, 2013).

There are two harvesting seasons with the major one being in November to December and the minor one is in July – August (NaFORRI, 2014). The flowering and fruiting patterns of cashew is well synchronized with the rainfall pattern of these regions (NaFORRI, 2014).

Cashew growing has great potential to contribute to a country's foreign exchange earnings. For instance, in Nigeria cashew export represents 8 % of the non oil export earning with an annual estimate of US dollars 25-35 million and in Tanzania cashew is the third amongst the leading export commodities after tobacco and coffee (Kasuga, 2013). In Uganda, cashew growing is primarily managed outside the conventional agricultural production with minimal investment initiatives (Esegu *et al.*, 2013). This has led to very low average nut yields in Uganda (<200 kg/ha) compared to other African countries like Tanzania (932.6 kg/ha),

Mozambique (933.6 kg/ha) and Kenya (687.1 kg/ha) for the majority of the small-scale growers (FAO, 2011). Many factors have been attributed to the very low average yields of cashew nuts in Uganda such as unavailability of superior varieties that combine high nut yield and quality, poor agronomic practices, high susceptibility of commonly grown varieties to pests and diseases, and variability in climatic patterns (Esegu *et al.*, 2013).

Milestones in research and development

The presumption that, cashew is a robust crop that can thrive very well in areas where other crops are not able and it was resistant to pests and diseases (Ohler, 1979) was negated in Uganda. Starter seeds imported in the 1970s from Kenya where no priority was given to seed selection and seedling screening for high productivity, quality, pest and disease resistance resulted into low yields, poor resistance to pests and diseases, low quality nuts due to poor genetic base (NAADS, 2004). During the RECINESA Project (2005-2009), efforts were made by the National Forestry Resources Research Institute (NaFORRI) to strengthen adaptive research by introducing high yielding cashew germplasm from Tanzania and Brazil and providing technical guidance in all aspects of cashew growing, processing and marketing so as to enhance its competitiveness with other crops (Esegu *et al.*, 2013). Research on insect pests and diseases affecting cashew production in Uganda were conducted and their management strategies developed (Kiwuso *et al.*, 2013). During the same period, NaFORRI developed breeding strategies and plans with a view of evaluating the performance of the different cashew varieties in terms of maturity period, nut quality, resistance to pests and diseases, and other desired attributes. Studies on vegetative propagation such as grafting and top working were also undertaken using scions from improved cashew obtained from Tanzania, Brazil and well performing land races. Twenty (20) hectares of cashew gene bank has been established in Omodoi-Soroti district using selected germplasm from the propagation experiments. Currently, farmer participatory evaluation of the germplasm is ongoing on existing germplasm so ease adoption and multiplication of the selected germplasm.

Value addition and marketing

The government liberalized cashew nut trade in 1992

and by 1993, 25 metric tons of raw nuts had been purchased at Uganda shillings (UShs) 400 and 300 per kilogram for “A” and “B” respectively from the local farmers (NAADS, 2004). Unfortunately, the civil war which started in 1994 by Lord’s Resistance Army (LRA), northern and eastern regions of the country ended up disrupting the trade.

In a bid to promote value addition and marketing, NaFORRI in partnership with Naliendele Agricultural Research Institute (Tanzania) in 2007 carried out training of farmers on cashew nut harvesting, processing and packaging. The training was done at a household level using simple tools and low-cost processing technology (Esegu *et al.*, 2013). Therefore, low-cost processing machines were imported from Tanzania to utilise the cashew nut production estimated at 1,500 metric tons per year (Esegu *et al.*, 2013). Since then, there has been a growing interest amongst the farmers and NGOs to revive cashew sector because of its economic potential to alleviate poverty and increase food security. However, few farmers have taken initiative to process, package and sell roasted cashew nuts and a case in point is Mr. Okillan Joseph, a farmer in Mukura sub-county-Ngora district who has established his cashew plantation and uses family labour to manage, harvest and process the nuts (Daily Monitor of 17th December, 2014). It is imperative to note that, many farmers lack the techniques to process their cashew kernels thus they end up selling the raw kernels cheaply that is UShs 6,000 and 5,000 per kilogram of grade “A” and grade “B” respectively (Okillan, Pers. Com). Most of the nuts are consumed at household level as roasted kernels and cashew paste. At national level, the demand for cashew processed kernels is very high and prices ranges from UShs 15,000 – 25,000 per kilogram depending on quality of the kernels (Okillan, Pers. Com). In order to fill the supply gap at the national demand, processed kernels are being imported from the two neighbouring countries (Kenya and Tanzania).

Constraints/Challenges

Despite the success in production within cashew farming systems (Abeyasinghe, 2009; Esegu *et al.*, 2013) and the economic profitability of cashew nuts (Mole, 2000), the potential of cashew nut production in Uganda is being curtailed by several constraints. Some of the constraints include low pace of research in developing varieties of high yielding and resistance

to diseases, inadequate multiplication of quality planting materials, low economic motivation to attract large investments; small scattered cashew production system distributed in over 30 districts and lack of cashew co-operative to organize farmers for effective development of the sector in the country.

Conclusions and Implications

Lack of consistent research and multiplication of high yielding cashew varieties is a limiting factor to the growth of cashew sector in Uganda. Therefore, in order to better harness the potential of cashew for food and income security in the face of changing climates, there is need to develop and promote well suited cashew varieties supported by efficient seed multiplication techniques. Implying that, the cashew sector should be supported by good policy and investment strategies to enable cashew research outputs translated into growth of the sector for improved livelihoods of the farmers. Hence, the preemptive research areas should include evaluation of cashew landraces and elite hybrids from Uganda and abroad for high nut yield suitable for different agro-ecologies of Uganda; development of cost-effective propagation techniques for safe introduction of evaluated and selected cashew germplasm; establishment and maintenance of good cashew genetic trials; and development of best agronomic practices for enhancing cashew nut production.

To cope with the increase in number of cashew trees being planted at household level (Esegu *et al.*, 2013) and also enhance the social capital that exists among the cashew farmer groups (Mujuni *et al.*, 2013), there is need to develop an effective extension networks for enabling small-scale farmers develop their capacities to manage cashew production, processing and value addition. This expansion of cashew growing should then be supported by a comprehensive marketing strategy that ensures cashew products are aligned with other commodities being export. Creation of a vibrant co-operative union can help cashew sector to become very attractive and competitive through improving farm level efficiency and ensuring product quality adherence.

More still, cashew like any other trees faces challenge of tenure rights because most communities in northern and eastern Uganda view the cashew as a common good resource. Consequently, children always move around to collect both the nuts and the

fruits for their own consumption. With the increasing demand for cashew nuts, there are a lot of conflicts arising from theft and malicious damage due to unclear tenure rights especially for the trees planted along the road sides and within public premises. Thus, there is need to develop a comprehensive policy that takes into consideration the issue of tenure rights and collective actions for the benefit of promoting the cashew sector.

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Authors` declaration

We declare that this study is an original research by our research team and we agree to publish it in the Journal.

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