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## **REPLACEMENT OF CASHEW NUT ORCHARDS BY FERTILIZER RESPONSIVE RUBBER PLANTATION; AN ALARMING SITUATION IN GARO HILLS REGION OF MEGHALAYA**

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Cashew, a perennial tree that is well known as "poor man's crop" is a source of highly-priced cashew nuts. India is the leading producer, consumer, and the second-largest exporter of cashew in the world. It has a prime position in cashew trade in the world market. Cashew is cultivated largely as a neglected crop, it ends up as a favorite snack food all over the world. In India, cashew is cultivated mainly in Kerala, Karnataka, Maharashtra and Goa along the West Coast, and Tamil Nadu, Andhra Pradesh, Odisha and West Bengal along the East Coast region (DCR, 2011). Cashew cultivation in major growing states receives dwindling importance in response to the price fluctuations in areca nut, cocoa, rubber and coconut. Cashew

cultivation is a technically feasible, financially viable and bankable activity based on agro-climatic conditions. The Garo Hills region of Meghalaya is well known for its horticultural crop production due to its suitable climatic condition, and soil status. The region is dominated by Garo tribal people and the majority of the farmers in the village areas have cashew nut, areca nut, black pepper, and betel vine orchard. Many farmers



of this region are dependent on plantation crop. In Garo Hills, cashew production was 14815 metric tonnes covering 10461 ha area with productivity of 1416 kg per ha during 2017-18.

Cashew being tropical crop can tolerate higher temperatures but is highly sensitive to frost. The optimum temperature range for successful cultivation is about 20°C to 30°C. The annual precipitation of 1000 to 2000 mm is ideal for cashew plantation. The coincidence of flowering with high rainfall or excess humidity leads to the incidence of pests and diseases. Clayey soils with poor drainage and soils with pH more than 8 are unsuitable for the crop. Red sandy loam, lateritic soils with slightly acidic to neutral pH are best suited for cashew cultivation.

Cashew nut production plays a pivotal role in fostering and sustaining the tempo of rural development. In West Garo Hills, grading and packing of raw cashew nut is done by village merchants, wholesalers and processors. The highest cost is incurred by the whole seller ((₹ 200/q) followed by village merchant (₹ 70/q) and processor ((₹ 60/q).The highest benefit-cost

ratio was achieved by the large farms because of judicious expenditure in cashew production and obtaining a sizeable amount of returns.

Cashew nut cultivation is the main source of livelihood for many growers in the region but a large section of them have shifted to rubber cultivation in the last few years due to dwindling prices and high investment in cashew nut cultivation. Now a day, many growers are transforming their existing cashew nut orchard to rubber plantation due to decreased production and productivity. The Garo Hills lies in a heavy rainfall area, and the practice of *jhum* cultivation has led to large scale soil erosion in many areas due to which several cashew trees of this area had exposed roots and farmers face losses. Here, rains start in the early April and continue till first week of October with high speed of winds, hailstorm and cyclone resulting in cashew crop damage.

#### **Factors affected in cashew nut production**

- With the increase climate change situation, the cashew growers experienced the problems of high infestation of pests and diseases.
- High input cost, scarcity of labour and poor quality of planting materials also discourage the cashew growers.
- Nuts get dry after the harvest. The farmers generally pick up the fallen nuts and sell to the local cashew traders at variable existing price which is most of the time minimal due to middleman.
- Lack of backward linkages between farmers, processors and longer chain intermediaries has resulted in a lack of adequate economic benefits to farmers.
- This drop-in productivity, coupled with fluctuating prices, is forcing cashew farmers in the major cashew growing regions to shift to more remunerative cash crops (Ganapathi and Akash, 2013; Sajeev et al., 2014a,2014b & 2015; Sajeev and Saroj, 2015, 2018; Venkattakumar, 2006 & 2008).
- Value addition is almost non-persisting or non-existent. Among other factors, lack of suitable preservation methods at the farmer's end further aggravates the losses.
- Post-harvest loss due to mishandling, non-hygienic practices, immature harvesting, etc. has also been constraints for the farmers in the way of getting a good price of the produce.
- Poor marketing facilities and no processing units are one of the major problems faced by cashew growers, for which they are not getting remunerative prices.

#### **Reasons for adoption of rubber plantation in a cashew nut orchard**

- Rubber tree provides quick income to the growers after formation of latex in the tree. Many argue that rubber provides longer term employment and land rights.
- No problems of marketing, they can sell the product to local middle man or nearby processing units with a higher price than cashew.
- Providing income round the year to the growers up to 7-8 years.
- It requires very little care and management after plantation.
- The high demand of the latex in the market or by the industry.
- Rubber industries are motivating and providing good support to the growers, results growers are taking more interest in it.

### Threats to rural tribal farmers on increasing area under rubber plantation

- Most of this rubber plantation is monoculture — growing only one plant species in an area. Scientists term monocultures as “biological deserts” because unlike natural forests, they don’t house diverse plant and animal species.
- Rubber plantation reduces biodiversity, water reserves and soil productivity.
- Rubber plants require 60-80% more water in comparison to other plants in a forest.
- Rubber plantation can cause hindrance in performing agricultural operations and ultimately damage other existing crops.
- Rubber plantation reduced the water level of that particular growing area to many years.
- No other crops can be cultivated in the rubber plantation area because it makes soil hard and unfertile.

### Future scope

- Cashew in Garo Hills region of Meghalaya is found to be economically feasible which can be made more beneficial by reducing the cost of production through the intervention of modern techniques in cashew cultivation.
- Direct Marketing of cashew produce will fetch a good price for the producer but it is not possible for all categories of farmers. Therefore, the formation of a cooperative society of cashew growers is suggested for procuring various inputs as well as the marketing of produce of the member farmers.
- Since there is great demand for Indian organic cashew kernels, Garo Hills region can be developed as an important region for growing cashew organically with establishment of processing units in rural and urban areas.

### Recommendation

- Majority of the farmers of Garo hills region are resource-poor and unable to afford the input costs as well as the production cost of cashew products. There is no any established input retailer shop, where farmers can procure a high yielding variety of seed/ planting materials. Therefore, financial support is necessary for cashew farmers through exclusive credit facilities.
- Strengthening of linkage between growers and various agencies will enhance the operational marketing efficiency through intervention of post-harvest technologies like grading, sorting, packaging, etc. as well as enhance cashew producer and consumer price.

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