

## **ROLE OF ORGANIC CASHEW NUT CULTIVATION - A STUDY IN CUDDALORE DISTRICT**

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### ***Abstract***

*India's strength is agriculture especially in rural India, the prosperity of the household depends on the prosperity of agriculture and allied activities. Our Indian traditional agricultural cultivation is organic practice, but now, the situation has been changed over the few decades. Because the technological development created to push farmers depends on the fertilizers for their all sort of agricultural activity, with the help of technological consequences. Then again farmers are trying to come to the initial (traditional) method of cultivation side because the consumers are realized the impact of the chemical fertilizers usage that would affect the human organs slowly. After the green revolution (1965) In India, all kinds of farmers preferably shifted to the organic cultivation for their farming. In this regard, the present study deals organic cashew nut cultivation in Cuddalore district. In horticulture sector, cashew has a predominant position compared to other type cultivation of this field. Now the thing is the role of organic cashew nut production in Cuddalore district and its floating among the different market scenario at national as well as international level.*

*Key words: Organic, Inorganic, Cashew nut, Fertilizers and Nutritional status*

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## **Introduction**

After realizing the cashew value of export and earning the foreign exchange, now we are expanding our cashew plantation with wider scale. In Tamil Nadu, Cuddalore district has a predominant role in cashew cultivation with high yield capacity. Some district like Ariyalur and Pudukottai have been maintained well cultivation process. But productivity concern, Cuddalore district recorded high in this context. And recently raises cashew farming area in Theni district with 1000 hectares. Because cashew has great market potential compared to other horticultural commodity. In this regard, it has maintained high employment opportunity to the marginal, semiskilled labour those who are lived in rural areas. The researcher found the relationship between the organic and inorganic cultivation process and find the significance of the cashew cultivation. The most important producing countries for organic cashew nut are Brazil, Srilanka and India.

Cashew is a traditional crop for Tamil Nadu grown in Cuddalore, Ariyalur, Pudukottai, Kanyakumari and Sivagangai. Demand for cashew kernels increases day by day creating a broad gap between the supply and demand for the product in the domestic and international market. Though India is the leading country in the production of cashew nuts in the world, the productivity is low compared to the newly emerging countries like Vietnam. The gap between the production and demand is so high and the technology has to play a significant role. But with the impact of the technological development, chemical fertilizers usage plantation created very quickly.

## **Statement of the problem**

In India, agriculture is a predominant occupation for the rural society as well the urban society. Cashew cultivation is 16<sup>th</sup> century itself we are cultivated for the livelihood. Every year cashew production has been increased gradually. Hence, the ancient time we are practiced the organic method of cashew production has been followed but now cashew cultivation more than 60% adopted chemical fertilizer for the cultivation progress. At present in the Sikkim state of India have been fully covered by organic farming in all aspects of cultivation. Maximum of farmers followed chemical fertilizers for their cultivation and they don't aware of the impacts of usages. But the situation has been slowly overcome from the destruction of the chemical fertilizers and considerable movements have been passed into people related to the organic

cultivation practices. So, this is the time to control usage of different types of pesticides and fertilizers. Now, the peoples are taken care about their physical importance and they are ready to give any amount for the purchasing of organic products.

### **Objective**

1. To analyze the organic cropping methods of cashew cultivation among the Cuddalore district.

### **Organic Cashew Cultivation**

Organic farming is a production system, which avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, and livestock feed additives. To the maximum extent feasibly, the organic farming system relies upon crop rotation, crop residues, animal manure, legumes, green manure, off farm organic wastes and aspects of biological pest control to maintain soil productivity and tilt, to supply plant nutrient and to control insects, weeds and another pests. In Tamil Nadu, major cashew growing districts are followed natural farming. But the yield from such orchard is low. This is due to the improper utilization of cashew waste consisting of dry cashew leaves, cashew apple and other farm wastes. However, organic farming could be a boon to a large number of farmers as a natural alternative. Since India is the major player in the world cashew scenario, organic cashew could be one of the India' best option for competing in the world market for increasing the export earnings and it could fetch a price in the world market. While selecting a site for a new plantation due consideration should be given on location. After site selected for the planting of organic cashew should be isolated from the conventional orchard blocks duly maintaining a distance of 500 meters to prevent contamination with chemicals. The recommended varieties for the specific region which are resistant to pests and diseases should be cultivated. In the absence of organically grown and maintained plantation seeds from conventional plantation not treated with any chemical can be used. In order to maintain soil fertility and for sustenance in production, an integrated approach consisting of growing leguminous crops,

### **Status of Cuddalore District -Cashew**

The main crops grown in Cuddalore district were paddy, sugarcane, groundnut, tapioca, millets, pulses, oilseeds etc. Dry land horticultural crops like cashew nut jackfruit were also

cultivated in this district. The district was famous for cashew cultivation as 30 percentage of the state area under cashew was accounted for by the district. Paddy was the most widely cultivated crop under irrigated as well as unirrigated conditions, which accounted for 37.8 percent of gross cropped area of the district, followed by pulses (16%) sugarcane (10%) cashew nut (10.5)

### **Preparation of Compost from cashew and cashew apple**

Organic cashew fertilizers are prepared from cashew leaf litter; apple and other jungle growth available in cashew garden can be collected before the pre monsoon season during the harvest of the crop. A chamber with a dimension of 5-meter length, width and 1.5-meter height need to be constructed for the preparation of compost. This can be constructed with shiftable angle iron and rods or with local materials available in the garden. Walls can be erected by using dry coconut tree leaves and wooden poles and stem splits of areca nut palm or bamboo. One layer of cashew leaf litter and cashew apple waste should be spread over the ground in the chamber and to that cow dung slurry equal 20% to 25% weight of biomass should be sprinkled after sufficiently wetting the biomass approximately to 50% moisture. The chamber should be filled layer after layer prepared as mentioned above. The top o the chamber should be completely covered with either coconut or areca nut leaves or any mulching material whichever available locally to prevent stagnation of rain water. This need to be kept through the rainy season, once in 45 days turning of the biomass should be done for uniform decomposition. During the rainy season, in case there are dry days without rain for more than 15 days.

### **Vermicomposting of Cashew Biomass**

Organic content in the soil is desirable for increasing the cashew yield through better moisture retention of the soil. Cashew is a deciduous tree which provides approximately 5 tones of cashew biomass fall out (Twigs, Flowers, apples, and flower) per hectare in a well implement cashew orchard. Use of earthworm for production of vermicompost from cashew biomass is a low-cost technology for adaption in the cashew orchard. Besides, utilizing earthworm to enhance the decomposition process has multifold benefits such as providing aeration in the sub-soil, the addition of micro – nutrients and enhanced microbial activity. The vermin compost can be incorporated into the soil of cashew orchards for boosting production. Percent recovery of vermin compost will be approximately 65% and thus 3.5tons vermin compost can be produced

per hectare adult cashew garden per year. The vermin compost contains important plant nutrients required by cashew and also useful micro organism.

Cashew leaf litter and apples are allowed to decompose form days after mixing with 15 percentage cow dung slurry. The vermin compost chambers may be of 1.5-meter height. 5 meter long with 1.5-meter width at the bottom of the chamber there should be a cement channel to fill water to prevent entry of ants. The compost should be sprinkled with sufficient quantity of water as when moisture level reduces below 40 percentages. For this, once in 4 days water should be sprinkled so that biomass always remains in wet condition.

**Table.1. Cashew Nutritional Content per 100 Gm (*Anacardium occidentale*)**

Nutrition	Content
Carbohydrates	30.19 g
Protein	18.22 g
Total Fat	43.85 g
Cholesterol	0 g
Energy	553 Kcal
Dietary Fiber	3.3 g
Vitamin E	5.31 mg

Source: CEPCI, 2015 (Cashew Export Promotion Council of India)

**Table. 2 Nutrient Organic fertilizer**

Manure	Nutrient	P2 O5	K2 O
Farm Yard manure	8.0	4.1	7.4
Vermicompost	16.0	22.0	6.7
Biogas Slurry	18.0	9.2	8.0
Ground Nut Cake	78.0	15.0	14.0
WasteHyacinthcompost	20.0	10.0	23.0
Castor Cake	58.0	18.0	16.0
Poultry Manure	28.7	29.3	23.5
Green Manure	39.8	-	-
Pongamia Cake	25.0	10.0	-

Source: DCCD

**Table.3 Adult Cashew Trees Required quantity of Organic Manures**

Manure	Qty (Kg)	Nutrient	P2 O5	K2 O
Farm Yard manure	62.4	500 (g)	258	462
Vermicompost	31.3	500	689	210
Biogas Slurry	27.8	500	256	222
Ground Nut Cake	6.5	500	96	92
WasteHyacinthcompost	25.0	500	250	575
Castor Cake	8.6	500	155	138
Poultry Manure	17.4	500	520	409
Green Manure	12.5	500	-	-
Pongamia Cake	20.0	500	200	-
Cashews wastecompost	31.0	500	171	124

Source: Directorate of Cocoa and Cashew Development, Cochin 2014

### Organic Cashew Cultivation in Cuddalore District

In Cuddalore district, panruti region is an important place for practicing cashew nut cultivation, in that area more 70% of the peoples have belonged agriculture activities and especially in cashew nut. Generally, farmers are followed chemical fertilizers for their farming. But, similar levels of farmers have been followed the organic type of fertilizers for cultivation practice. In and around panruti farmers like marginal small, large sizes farmers are used farmyard manure and cow dung regularly and other pesticides. But, some of the farmers have followed fully organic practices. The researcher has found some important issue regarding on the organic cultivation into Panruti region with the help of primary data. The following tables illustrate the status of the cashew cultivation practices under the Cuddalore district with two different taluks namely, panruti and Cuddalore.

**Table. 4 Panruti Taluk – Organic and Inorganic Cashew Cultivation**

Factors	Small	Medium	Large	Overall
Organic	5	6	5	16
Inorganic	62	54	49	165

Source: Computed

From the table 3 illustrated that the pants taluk cashew farmers are followed organic as well as inorganic cashew practices. In that, out of 181 sample respondents, 16 farmers were fully depended on organic practices, like farmyard manure and vermicompost. Balance 165

farmers are followed under the category of inorganic cashew practices. Compared to inorganic farming, organic farming expenditure little high in this method.

**Table.5 Cuddalore Region – Organic and Inorganic Cashew Cultivation**

Factors	Small	Medium	Large	Overall
Organic	7	-	3	10
Inorganic	46	36	38	120

Source: Computed

From the table 4 illustrated that the Cuddalore Taluk cashew farmers are marinating organic as well as inorganic cashew cultivation. In these circumstances, out of 130 sample respondents, 10 farmers are coming under the organic cashew cultivation. And, 120 sample respondents under the farming of inorganic practices. But, Cuddalore taluk cashew farmers highly concentrated on intercropping systems like black gram and ginger likewise because the farmer's yield per hectare is very low compared to Panruti region.

### **Conclusion**

The present situation cashew production achieved tremendous performance. We are for the position of conservation of cashew cultivation, for that we have done to maintain some unique method of cultivation like organic practices. This is the chance to back to do traditional cultivation and this may created employment opportunity for the unskilled labor for the rural society. Further, it gives good foreign exchange to the government as well as the entrepreneurs and we have to uphold for the betterment of cashew farmers for their livelihood. In addition, better schemes needed from the government side for the good enhancement of cashew farmers. Further, the majority of the farmers like to work with the traditional system but, there is no favorable situation adapted to the farmers due to the uncertainty of climate conditions. So, the government must incorporate into the farmers living condition especially for the rural background and more assistance expected from the farmers for the supporting cashew cultivation.

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