

Factors influencing cultivation of cashew in central Tamil Nadu

Abstract

Cashew cultivation is predominant in Ariyalur District of central Tamil Nadu, 11.2399N, 79.2902E), India 20.5937 N, 78.9629 E. On assessing the area, production and productivity of Cashew, the area under Cashew in India is found to be increasing over the period of ten years and it is steady with the annual growth rate of 1.58 per cent. But in respect of Tamil Nadu, it is declining to the level of 1.68 per cent per annum in a decade of time. This is true with respect to production of Cashew both in India and Tamil Nadu. When one could compare the productivity growth over a period of time, India is showing a positive annual growth rate with 1.89 per cent. But Tamil Nadu is showing a negative annual growth in respect of Productivity which is arrived at 3.61 per cent. Though the technology is available for Cashew, it is not properly transferred to the field. Still the older varieties are in the field among certain farms. Cashew cultivation is influenced by certain factors. Among which adaptability to poor soil condition and drought tolerance found to be the principal factor followed by the availability of high yielding varieties and its less maintenance cost could influence the cultivation of Cashew. Besides other factors, the economic factors which are influencing the cultivation is also discussed.

Keywords: cashew, area production and productivity, factor influencing cultivation

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Introduction

Cashew is native to South America (Brazil) was introduced in Asia and Africa by European explorers in the sixteenth century. The World production of Cashew raw nuts reached 4.27 million tonnes in 2011. India is the largest producer, processor or consumer and exporter of cashew in the world (Elakkia et al., 2017). The current cashew production in India accounts for 45 percent of global production. Cashew, initially cultivated for soil conservation, has evolved into a cornerstone of agriculture in Tamil Nadu, significantly contributing to national production levels. This crop emerged as a major foreign exchange earner, ranking only behind tea and coffee. Globally, Cashew nuts hold a prestigious position among nuts, favored for their versatility and widespread use in social settings, especially in western countries. India is the greatest area holder of this crop and ranks second in production after Vietnam. Tamil Nadu boasts extensive cultivation across 142,000 hectares, yielding 77,000 tonnes annually during the year 2022-2023. Cashew is one of the cash crops. Its contribution to GDP is 0.03 per cent. Cashew and Cashew processing provide an Economic possibility for marginalized communities in rural regions. It was also known as the "Gold mine of waste land". Cultivating Cashew helps minimize soil erosion by binding soil particles together. However, on establishing this as a main crop, it also needs care by ensuring proper irrigation, proper fertilizer application, pruning and proper pest control mechanism which alone could generate good yield from the crop. Besides incurring hardships in its cultivation, the farmers are also suffers to sell their Cashew nuts in the market due to stiff competition with Cashew imported and its lower price per unit and hence the quantum area under this crop becomes questionable in recent days owing to few problems in production, distribution and processing of Cashew. Research efforts were not made so far to document the production, processing and marketing activities of Cashew. Though, Ariyalur District is a known place for Cashew cultivation due to the low water availability and water scarcity, the farmers are forced to take up cultivation and processing of Cashew in their farm holdings. It seems to be a different activity

according to the farmers and hence efforts are taken to address the above issues and the study was initiated in Ariyalur District with the view of analyzing the area, production and productivity of cashew and the factors influencing the cultivation of Cashew in Ariyalur District of Tamil Nadu.

Design of the study

Agriculture is the main occupation in Ariyalur District. The crops cultivated are Sesame (*Sesamum indicum* L.), Groundnut (*Arachis hypogaea*), Jack fruits (*Artocarpus heterophyllus* Lam), Cashew (*Anacardium occidentale*), Eucalyptus (*Eucalyptus tereticornis*) and Casuarina (*Casuarina equisetifolia*). Cashew, is majorly cultivated in the area due to low water availability, the soil type is Red loam soil, drought tolerance and processing is done here by utilizing the Cashew nut to certain extent due to the raw material availability in this district.¹

Sampling design

The study is focusing on addressing the problems in connection with production of Cashew, harvesting, processing and marketing the products in the study environment. For that purpose, the study area was selected as Ariyalur District as it encompasses large number of farmers whom are interestingly cultivating Cashew as their main crop and hence it was selected purposively in the first stage. In the second stage, Jayankondam block was chosen as it had higher area under cashew. In this block, 30 sample farms were chosen purposively from three villages in the third stage following a three stage random sampling as it is focusing only on Cashew cultivating farms and hence other farms were ignored while performing the selection process.

Data collection

For this study, both primary data and secondary data were used. Primary data was generated through a well structured interview schedule designed for the farm level survey and the same was pretested in the field appropriately and modified accordingly. The method of data collection

was done by personal interview. Data on general characteristics of farmers like age, education, farming experience, size of the land holdings, crops grown in the area, awareness and adoption of inputs, knowledge on application of inputs and farmers preferences on raising Cashew as their main crop, economics of cultivating the crop and the returns realized from the crop. Secondary data like area under crops, production and productivity were gathered from the records of Department of Agriculture and Farmers' Welfare, Ariyalur and are suitably analyzed using percentage analysis.

Study Period

The reference year for the study was the agricultural year 2023 and the collection of data from the sample households were taken up during the months of April to June 2024. Economic appraisal tools like Benefit-Cost Ratio and Net percent value are analyzed and assessed for its Economic worthiness of cultivation.

Results and discussion

The results are discussed under the following sub heads. They are,

- Size of holding
- Area under different crops

Table 1 Size of holding available with the cashew cultivating farms in Ariyalur district

S. No.	Size of farm	Number of farms	Average size of holding in Ha	Percentage to total
01	Small Farms (1 to 2 Ha)	07	02.00	23.40
02	Semi-Medium (2 to 4 Ha)	09	03.60	30.00
03	Medium (4-10 Ha)	08	07.00	26.60
04	Large Farms (> 10 Ha)	06	12.90	20.00
Total / Mean		30	05.10	100.00

Table 1 revealed that the average size of holding available with the farm households is arrived at 5.10 ha. In the study environment, the semi-medium category of farms are predominant with 3.60 ha per farm followed by medium and small category of farms who are in possession of 7 ha and 2 ha per farm in which they grow multiple crops for their livelihood. In this circumstance, it is important to assess the area that is prevailing with the farms and the details of different crops cultivated in their holdings.

Area under different crops cultivated in Ariyalur district

Area under different crops cultivated every year gives an ideal decision to the researcher to foresee the nature and type of crops to be brought under cultivation by the farmers and the details are obtained from the Department of Agriculture and Farmers Welfare. The farmers of Ariyalur District are showing their interest in Cashew

Table 2 Area under different crops in Ariyalur district (2022-23)

S. No.	Name of the crop	Area in Ha	Percentage to total
I	Cereals		
01	Paddy	26,181	21.71
02	Sorghum	049	00.04
03	Maize	17,822	14.78
04	Pearl Millet	1,231	01.02
	Total Area under Cereals	45,283	37.55
II	Pulses		
05	Red Gram	123	00.10
06	Black Gram	8,721	07.24
	Total Area under Pulses	8,844	07.33

- Cropping pattern
- Area production and productivity of cashew
- Soil type and climate
- Factors influencing cultivation of cashew
- Technological Advantages Associated with Cashew Varieties
- Out-Turn of cashew and its By - Products

Size of holding with the sample farms

Though the area under cultivation is appreciable, each and every farmer and their size of holding in possession with them are of much more important and hence these details are analyzed and the results are presented in Table 1. The size of holding is classified as Marginal whom are in possession with less than one ha area, Small farms are classified in the range of one to two ha area, semi - medium category of farm lies in the range of 2 to 4 ha in possession, while the medium category is in the range of 4 to 10 ha and the large farms are classified into the category of above 10 ha following the standard norms prevalent with Department of Economics and Statistics, Government of Tamil Nadu.

cultivation as their friendly crop. Since Ariyalur District is capable of cultivating Cashew in a higher area, their cropping details and its analysis becomes much more important to the researcher and hence these details are analyzed and the results are presented in Table 2.

Table 2 revealed that the area under cereal crops is accounted for around 37.55 per cent to the total area under crops. This district is flooded with different crops in which the agricultural crops alone took the share of 57 per cent to the total area followed by the area under commercial crops shared around 41 per cent to the total. The area under horticulture crops took the share of only around 2 per cent. The predominant crops are found to be Mango, Jack and Moringa. Among the horticulture crops, the area under Moringa alone had the share of 1.34 per cent to the total area under crops. Though the Cashew is the plantation crop under horticulture, which is brought under the commercial crop category and its share is arrived at around 25 per cent to the total area under the crops raised in Ariyalur District.

Table 2 Continued...

S. No.	Name of the crop	Area in Ha	Percentage to total
III	Oil Seeds		
07	Groundnut	12,743	10.57
08	Gingelly	1,537	01.27
09	Sunflower	428	00.35
	Total Area under Oil Seeds	14,708	12.19
IV	Commercial crops		
10	Cashew Nut	30,562	25.35
11	Casuarina	9,,873	08.19
12	Eucalyptus	8,963	07.43
	Total area under commercial crops	49,398	40.97
V	Horticultural Crops		
13	Jack fruit	142	0.11
14	Mango	576	0.47
15	Moringa	1,628	1.34
	Total Area under Horticultural Crops	2,346	01.96
	Summary of area under different crops		
	Total Area under Agricultural Crops	68,835	57.07
	Total Area under Horticultural Crops	2,346	01.96
	Total Area under Commercial Crops	49,398	40.97
	Total Area under Crops	120,579	100.00

(Source: Office of the deputy director of statistics, Ariyalur district) (Figures in parentheses indicate percentage to respective total)

After the agricultural crops area, priority is given to Cashew cultivation and hence the share of Cashew is found to be 25 per cent outlined that the farmers of Ariyalur District are much interested in raising Cashew as their cash crops.

Cropping pattern prevalent among the sample farms

Cropping pattern explains that how the farmers are allocating their space for different crops which are commanding food, wood and nut needs. In this respect, one would be interested in analyzing the details

of cropping pattern prevalent among the sample farms of different size of holdings and these are analyzed and the results are presented in Table 3.

Table 3 revealed that the marginal farmers are not cultivating Cashew in their holding as they have limited size of holding and are interested in raising Groundnut and Black gram as their main crop. Among the two crops, higher area is earmarked for Black gram because of short duration to realize cash benefits and domestic requirements.

Table 3 Details of cropping pattern prevalent among the sample farms

S. No.	Farm size	Cropping pattern (Ha)					Total area in Ha
		Cashew	Casuarinas	Eucalyptus	Groundnut	Black gram	
01	Marginal	00	00	00	00.30 (37.50)	00.50 (62.50)	00.80 (100.00)
02	Small	01.20 (60.00)	00	00	00.40 (20.00)	00.40 (20.00)	02.00 (100.00)
03	Semi-Medium	01.60 (44.44)	00.80 (22.23)	00	00.60 (16.67)	00.60 (16.67)	03.60 (100.00)
04	Medium	03.50 (50.00)	00.30 (04.29)	01.90 (27.14)	00.70 (10.00)	00.60 (08.57)	07.00 (100.00)
05	Large	04.50 (34.88)	03.40 (26.36)	03.80 (29.46)	00.60 (04.65)	00.60 (04.65)	12.90 (100.00)
	Mean Size of Holding	02.16	00.90	01.14	00.52	00.54	05.26

The small farmers had the habit of cultivating Cashew in their holdings to the extent of 1.20 ha which is accounted for 60 per cent to the total size of holding with them. Ground nut and the Black gram are the dearer crops to them which are raised as solo crops in their holding when sufficient rainfall received and are given with protected irrigation during the drought that occurs continuously.

The semi-medium category of farms is able to allocate 1.60 ha area under Cashew which is accounted for 44 per cent to the total size of holding available with them. They are also showing much interest in raising Casuarinas as their dearer crop to meet the requirements in the market and capable of fetching considerable income to the farm household. They also allocate equal area for Ground nut and the Black gram which are the dearer crops for their livelihood which

are respectively accounted for 16.67 per cent each to the total size of holding available with them. Area under Casuarinas is accounted for 22 per cent to the total.

The medium category of farmers have allocated 3.50 ha for establishing Cashew as their preferential crop in their holding which is accounted for 50 per cent to the total size of holding and they do allocate 1.90 ha area for establishing eucalyptus (*Eucalyptus teretecorinis*) plantation in their holdings as it serves as raw material to the paper industry and also has higher demand in the wood market for its pole value.

The large farm category are much interested in allocating higher area under cashew, casuarina and eucalyptus as they have higher area which is available with them. Higher area had motivated the large

farmer to resort higher area for perennial crops and they could earn higher incentives from the plantations with lesser investment and care.

To sum up, one could examine the cropping pattern in the study area as a whole, the area earmarked for cashew is 2.16 ha; 0.09 ha for casuarinas and 1.14 ha for eucalyptus. It is interesting to observe that the area earmarked for Ground nut and Black gram is almost similar in all the size of holding as their demand in the households are limited.²

Area production and productivity of cashew in India and Tamil Nadu

The area production and productivity of cashew for India and Tamil Nadu are discussed over a period of time to assess the trend in allocation of area under Cashew and its production. This will delineate the year in which the farmers were allocating higher area for Cashew and its associated factors for such increase. These are analyzed and the results are presented in Table 4.

Table 4 Area, production and productivity of cashew nuts in India and Tamil Nadu

Year	Area (In'000 Ha)		Production(in '000 MT)		Productivity (Tonnes per Ha)	
	India	Tamil Nadu	India	Tamil Nadu	India	Tamil Nadu
2010-11	953.00	96,710	675.00	39,996	00.70	00.41
2011-12	979.00	97,033	725.00	25,532	00.70	00.26
2012-13	992.00	93,302	753.00	19,730	00.80	00.21
2013-14	1,011.00	92,138	753.00	26,273	00.70	00.29
2014-15	1,029.50	89,021	745.00	36,561	00.70	00.41
2015-16	1,035.60	88,415	670.90	27,094	00.60	00.31
2016-17	978.30	86,280	744.70	10,247	00.80	00.12
2017-18	1,062.00	85,883	817.00	19,279	00.80	00.22
2018-19	1,105.00	85,272	743.00	19,701	01.05	00.23
2019-20	1,125.00	83,977	703.00	25,690	00.70	00.31
Total	10,270.40	8,98,031	7329.60	2,50,103	07.55	02.77
Mean	1,027.04	89,803	732.96	25,010	00.75	00.28
CAGR	01.58	(-) 01.68	0.49	(-) 05.33	01.89	(-) 03.61

(Source: Ministry of Agriculture and Farmers Welfare, Government of India)

Table 4 revealed that the area under Cashew in India is found to be increasing over the period of ten years and it is steady with the annual growth rate of 1.58 per cent. But in respect of Tamil Nadu, it is declining to the level of 1.68 per cent per annum in a decade of time. This is true with respect to production of Cashew both in India and Tamil Nadu. When one could compare the productivity growth over a period of time, India is showing a positive annual growth rate with 1.89 per cent. But Tamil Nadu is showing a negative annual growth in respect of Productivity which is arrived at 3.61 per cent.

To sum up, Tamil Nadu should take concerted efforts to enhance the area and production by employing right kind of technology which is available in Tamil Nadu. But it is not fully utilized to realize the spirit of technology. Here what is needed is improving the services

of Extension agencies in disseminating the improved technologies to the farmers whom are interested in growing Cashew in the district. Even the potential districts are also lacking in productivity and hence combined action of line departments like Department of Agriculture, Department of Horticulture and Plantation Crops and the Regional Research Station which has devoted its service for Cashew is needed to enhance the productivity.^{3,4}

Area, production and productivity of cashew in top ten districts of Tamil Nadu: A scene of area production and productivity of cashew in the regional setting highlighting district wise data which are considered to be top ten are analyzed and the results are presented in table 5.

Table 5 Area, production, productivity of cashew in top 10 districts of Tamil Nadu during 2021-2022

S.NO	Districts	Area (In Ha) 2021-22	Production (in Tonnes) 2021-22	Productivity(in MT/Ha) 2021-22
01	Ariyalur	30,583.00	15,866.49	0.52
02	Cuddalore	29,489.00	15,964.00	0.54
03	Pudukkottai	5,788.12	2,894.06	0.50
04	Villupuram	3,259.76	1,629.21	0.50
05	Theni	3,210.71	963.21	0.30
06	Sivagangai	2,741.55	822.46	0.29
07	Thenkasi	1,615.07	646.03	0.40
08	Thanjavur	1,681.48	504.44	0.29
09	kallakurichi	959.71	479.66	0.50
10	Nagapattinam	940.70	639.68	0.68
	Other Districts	5,843.55	7,808.13	1.34
Total		86,115.65	55,745.49	05.87

(Source: Department of horticulture and plantation crops, Government of Tamil Nadu, 2021-2022)

Among the districts, Ariyalur found to be the fore runner in respect of area and production of cashew which is closely followed by Cuddalore district. The learnt in area is found to be Nagapattinam district, but its productivity is found to be on the highest. The average productivity among the top ten district is arrived 587 kgs per ha.⁵

Soil and climate

Cashew cultivation in Ariyalur District is backed by its soil quality. The presence of Red Loamy soils in the study environment is one of the principal factor that promotes growth of the plants in a better way. The soil and climatic conditions that are prevailing in the study area is analyzed and the details are presented in Table 6.

Table 6 Soil and climatic conditions in the study area

Sl. No	Soil Particulars	Units	Climate Units
01	Soil Type	---	Read Loamy Soil
02	Rainfall	MM	954.00
03	Temperature	Celsius	24-36° C
04	Relative Humidity	Percent	55.00
05	Wind Speed	M/S	10.30

(Source: Time and Data.Com, 2024)

Table 7 Factors influencing cultivation of cashew in Ariyalur

S. No.	Factors	Percentile position	Garrett's score	Rank
01	Adaptability to Poor Soil Conditions and Drought Tolerance	20.37	2126	I
02	Availability of High Yielding Varieties and its Less Maintenance Cost	19.09	1993	II
03	Capable of Absorbing Higher Volume of Output in National and Regional Markets	15.67	1635	III
04	Less Incidence of Pest Infestation	15.58	1627	IV
05	Long Term Storage	11.24	1171	V
06	No Need of Regular Care	10.85	1132	VI
07	Absence of Cattle Menace	07.20	756	VII

Table 7 revealed the details of certain factors that influence the farmers in cultivation of Cashew. In the study environment, around seven factors were found to be influencing the farmers. Among the seven factors, the first and foremost influencing factor is found to be the “Adaptability to Poor Soil Conditions and Drought Tolerance” which has scored the first rank with 20 per cent influence from the farmers.

Availability of high yielding varieties and its less maintenance cost is the second factor which has received 19 percentile positions and got the second rank. After planting, watering alone is the single activity to be performed regularly and does not need any other care and hence the farmers are interested in establishing the plantations.

Since Cashew nut is the sweeter and tastier one to the common public of any strata, it is being preferred for many culinary and sweet preparation activities. Because of this usage in various food preparations, it has wider demand in the regional, national and international markets and hence it is able to attract better price too and got 15.67 percentile positions and stood in the rank of third.

Another positive factor associated with the cultivation of Cashew is the less incidence of pest infestation which has got 15.58 percentile positions and stood in the fourth rank. Mostly, pest incidence both in the crop and in the fruit, the incidence of pest attack is very minimal and hence it is found to be an organic product and a gift of nature to feel and cherish the output.

Table 6 outlined that the annual rainfall received in the study environment is arrived at 954 mm. The temperature prevailing in that environment is 24 to 36 degree celcius and the relative humidity is around 55 per cent. The wind speed is almost minimal in the locale that is not permitting the flowers to wither away and hence the flower setting is not much affected due to the wind speed. Besides, the influence of real factors permitting the farmers to grow Cashew is analyzed and are discussed under the head, Factors influencing cultivation of Cashew.

Factors influencing the cultivation of cashew in the sample farms

Cashew is the dearer crop for cultivation in the Ariyalur district farmers due to certain environmental factors. Generally the farmers are interested in raising different commercial and horticultural crops to sustain their income for a long to meet the emerging needs that arose in different occasions. Among the commercial crops, Cashew is able to sustain their cash income on an annual basis. In this respect, one would be interested in analyzing the reasons that motivates the farmer to cultivate Cashew in their farm holdings amidst all others are raising other crop is of much more important and hence these results are analyzed and are presented in Table 7.

Any output produced needs personal attention to care for the produce by establishing good storage facility to protect from pests and insects problem. If it is properly dried, and kept in storage, its longevity becomes possible and hence the Cashew cultivation is an interesting activity to the farmers and able to secure fifth rank among the farmers.

Another interesting factor is no need of personal attention on the plantation and gained the sixth rank with the percentile positions of 10.85 and the plants was not browsed by small ruminants and cattle population and hence it is also one of the supporting factor in establishing Cashew plantation in their holdings. It has also gained 7.20 percentile positions and stood as the last influencing factor and ranked as seventh. These seven factors are favoring the farmers in cultivation of Cashew in their holdings. The cultivation of Cashew is also going to be influenced by Hybrid varieties which are to be released in the soil for the use of farming community.

Technological advantages associated with cashew varieties

VRI-3 is the latest variety ruling the farms and its advantages are discussed elsewhere. It is also important to assess why the varieties are being preferred in cultivation in the farms which are analyzed and the results are presented in Table 8.

Table 8 Technological advantages associated with cashew varieties

S. No.	Description	Units	Cashew Variety			
			VRI-1	VRI-2	VRI-3	Traditional variety
01	Nut Yield	Kg/Tree	07.20	07.40	11.68	06.00
02	Nut Weight	Gram	05.00	05.10	07.18	05.00
03	Shelling Percentage	Percentage	28.00	28.30	19.10	20.00
04	Kernel weight	Gram	01.40	01.45	02.16	01.00
05	Grade	Whole (W)	240	240	210	240

VRI is the variety released by Regional Research Station of Tamil Nadu Agricultural University which is located in Viridhachalam. It has released three varieties and are designated as follows

- VRI – 1
- VRI – 2 and
- VRI - 3

Each variety reflects an improvement in nut yield, nut weight considerably. VRI – 3 is found to have an improvement in the nut yield which is arrived at 57.83 per cent over the variety VRI – 2. In respect of Nut weight, VRI – 3 excelled over VRI – 2 to the level of 40.78 per cent. But in respect of Shelling percentage, VRI – 3 had a reduction of 9.20 per cent over the VRI – 2 varieties indicated that VRI – 3 had a yield advantage in several respects. Kernel weight is also found to be 2.16 grams in VRI – 3 which is higher than VRI – 2

varieties and hence preference is evidenced in cultivating VRI – 3 variety of Cashew in the farm holdings. Usage of technologies in the farm holdings would have encouraged many of the farmers to stay in agriculture. This is analyzed under the head of occupational status and is presented in the following section.

Out turn of cashew and it’s by-products

Processing is one of the important activities that need to be carefully addressed to extract the quality Kernels of Cashew. It involves several steps (Figure 1) which has yielded different by-products. The yield of Cashew and its bi-products on processing are also of much important in analyzing the gross returns generated from cashew per ha. Though the returns are calculated only for the whole nuts of Cashew, the bi-products yield and its pricing details in the market are also analyzed and the details are presented as additional information for the users and the learners. These details are presented in Table 9.

Table 9 Out turn of by-products from cashew

S. No.	Name of the Product	Average annual yield in Kgs	Average price per Kg	Percentage to total
01	Cashew Nut	610.00	112.50	100.00
02	Cashew Kernels	175.37	620.00	28.75
03	Cashew Nut Shell	415.53	046.00	68.11
04	Testa	019.10	025.50	03.14

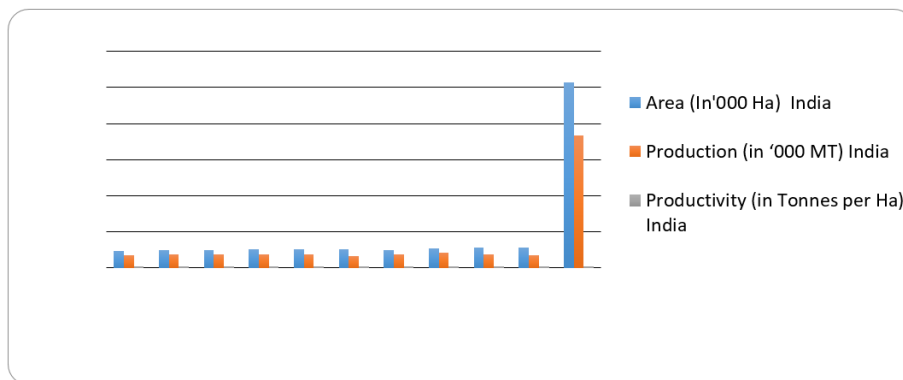


Figure 1 Graphical representation of area, production and productivity of cashew in India.

Cashew nut is not only the output from the plantation but also it derives three other by-products. They are Cashew Kernels, Cashew Nut Shell and Testa. The Cashew Kernels are the main product from whole Cashew nut. But the Cashew nut shell is another product which are used as a fuel in the bakery and sweet stalls and has a wide demand for the shell. But it also produce the Cashew Nut Shell Liquid (CNSL) which is also an economic product used in the paint industry and other value additions in the manufacturing sector. The Testa is another product is a thin brown layer coated on the kernels which are also used as a product to mix with the tea manufacturing units.

Table 9 revealed that the Cashew kernels are the output which is arrived at 175 kg from the whole nuts of 610 kg drawn from a ha area of plantation which is priced at Rs. 620 per kg on an average. The percentage share of the kernels alone is accounted for 28.75 per cent to the total. Cashew Nut Shell is another product could be obtained from the whole nuts and its yield is arrived at 416 kg from the whole nuts which is priced at Rs. 46 per kg which is accounted for 68 per cent to the total and the Testa is priced at Rs 25.50 per kg and its out turn from 610 kgs of whole nut is arrived at 19 kg which is accounted for 3.14 per cent to the total.⁶

Economic appraisal of cashew cultivation

Under the head economic appraisal, the real value of whole nuts alone is included as it moves as a lot from the producer farmers. In the point of producers of Cashew, the benefits are included only for the whole nuts and the economic tools like Net Present Value and the Benefit Cost Ratio were worked out and the results are delineated and presented in Table 10.

Table 10 Economic appraisal of cashew plantations

S. No.	Particulars	Amount in INR
01	Total Cost in Rs	2,16,184
02	Gross income in Rs	6,37,420
03	Net income in Rs	4,21,236
04	Benefit Cost Ratio (BCR)	02.13
05	Net Present Value (NPV) in Rs	1,50,518

Table 10 revealed that the Net income received from the plantation of 10 year duration is arrived at Rs. 4.21 lakhs. The Benefit Cost Ratio in a discounted term using 12 per cent interest rate is arrived at 2.13 which indicated that for a rupee of investment, the farmer could earn a net return of Rs. 1.13 from the plantation and the Net Present Value is arrived at Rs. 150518. The Net Present Value if it equals zero or more than one it revealed that the investment is profitable and hence the investment made by the farmer is found to be profitable.⁷⁻⁹

Conclusions

Ariyalur District of Tamil Nadu is the topper in respect of an area and production and productivity, Nagapattinam district was forced to be the topper and hence the possibility of infusing high yielding varieties to enhance the production and productivity are to be explored by the Department of Horticulture and Plantation crops. Since the Cashew cultivation is predominantly cultivated by small and semi-medium category of farmers, the technology dissemination to enhance the production and productivity need to be explored by the Department of Horticulture and Plantation Crops of Government of Tamil Nadu. The economic parameters suggested that the cashew cultivation is a highly profitable venture in the study environment.

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