A GEOGRAPHICAL ANALYSIS OF CASHEWNUT PROCESSING INDUSTRY IN THE SINDHUDURG DISTRICT, MAHARASHTRA

Abstract

IMPORTANCE OF PROPOSED INVESTIGATION:

Cashew (Anacardium Occidentale L.) belongs to the family Anacardiaceae is an economically important tropical crop. The Indian Cashew Industry is export oriented and hence called as dollar earning crop of the country. It provides employment to more than 5 lakh people both directly and indirectly, particularly in the rural areas. India is largest producer, processor, consumer and exporter in the world contributing for 26.40 per cent and 46.09 per cent of the world production and export respectively during 2006-07. Even though, India is importing sizable quantity of raw cashewnut to get the advantage of value addition. There is huge scope to increase productivity by putting waste land under cashew plantation in the konkan region. For this there is a need to carry out the geographical study to strategies the plan for improvement.

In Maharashtra state cashewnut is grown mainly in Ratnagiri and Sindhudurg districts. Most of the cashew producers in Ratnagiri and Sindhudurg districts are small producers and they are unorganized. Consequently, marketing of cashewnut remained to be of primitive nature and unorganized. Cultivation of cashew is also unscientific and not commercialized.
in most of the areas. Hence, the study is proposed to collect the information on production and cashew processing units.

It is imperative to study cashewnut production and to carry out analysis of cashew processing units so as to enlighten cashew growers for improvement. This study would help to understand the productivity pattern, costs, gross and net returns from cashew orchards and facilitate the implementation of the programme of plantation of cashew orchards on extensive scale. The study mainly aims to provide necessary ‘feed-back’ to cashew unit and understanding the functioning of the cashew processing unit with investment pattern, cost and returns and business performance in the Sindhudurg district.

1. INTRODUCTION:

Cashew (Anacardium Occidentale L.) belongs to the family Anacardiceae is an economically important tropical plantation crop. It ranks second only to Almond, among the nine tree nuts of importance in the world trade. Cashew was a native of Brazil introduced by Portuguese travelers during 16\(^{th}\) century at Goa from where it was spread to other parts of India. It is an important plantation crop in wasteland development programme due to its utility in soil and water conservation and to build up balanced ecosystem. Apart from economic significance, cashew industry has the potential leading role in the social and financial upliftment of the rural poor. So, cashew is generally described as poor man’s crop and rich man’s food.
Cashewnut cultivation provides employment to more than 5 lakhs people both directly and indirectly, particularly in the rural areas. The production period of cashew is from 6\textsuperscript{th} to 40\textsuperscript{th} year after plantation. Raw nut, cashew kernels and cashewnut shell liquid (CNSL) are the three main cashew products while the cashew apple is generally processed and consumed locally.

Cashew kernel is known for its delicious, pleasant taste and for balanced nutritive profile. The nutrients present in cashew kernels are protein, fat, carbohydrate and all fat soluble vitamins (A, D, E and K). It is also source of minerals like calcium, magnesium, potassium, sodium, iron and other. Cashew is a perfect food with zero per cent cholesterol. The by-products like cashewnut shell liquid (CNSL) which is a valuable raw material for preparation of oil paints, varnishes, water proofing agents, adhesive ingredients, pigments of gums, typewriter rolls, automobile break lining and lubricants in aircraft. The cashew apple is used in preparation of fruit juice, syrup, candy, jelly, pickles, cashew wine and fenny.

Cashew is grown in India, Brazil, Vietnam, Tanzania, Mozambique, Indonesia, Sri Lanka and other tropical Asian and African countries. The area under cashew in the world is 30.62 lakh hectares. The world production of cashew is estimated to be around 20.82 lakh tones. India’s share in the world raw nut production contributes to about 25 per cent. In recent times, India is facing stiff competition from Vietnam and Brazil in the international cashew trade (Bhat 2007).
India is the largest producer, processor, exporter and second largest consumer of cashew kernels in the world. Indian cashew kernels are exported to more than 60 countries in the world, mainly to U.S.A., Netherlands, U.K., Germany, Japan, Australia, U.A.E., etc. The country earned foreign exchange equivalent to Rs. 2464.35 crores, from export of 118540 MT of cashew kernels (Rs. 2455.15 crores) and 5589 MT of cashewnut shell liquid (Rs. 9.20 crores) during the year 2006-07.

In India cashew is grown mainly in Maharashtra, Goa, Karnataka and Kerala along the west coast and Tamil Nadu, Andhra Pradesh, Orissa and West Bengal along the east coast. To a limited extent it is grown in Manipur, Meghalaya, Tripura, Andaman and Nicobar Islands and Chattisgarh. In the year 2006-07, cashew was grown in an area of 8.37 lakh ha. with the total production of 6.2 lakh MT. The productivity has been steadily increasing from 430 kg/ha. in 1985 to 810 kg/ha. in 2005. Still India is importing raw nuts from African and other countries to the tune of 5.8 lakh tonnes to meet the domestic demand of cashew processing industries. Presently African countries have taken up cashew processing themselves resulting to partial availability of raw cashewnut for processing. Hence, there is urgent need to increase the domestic raw cashewnut production by increasing large area under plantation of high yielding varieties and improved technology to increase productivity per unit area to become self sufficient in raw cashewnut production.

In Maharashtra state, the production and productivity of cashewnut is highest in the country, as majority of plantation are developed primary by
clones of high yielding varieties and also cultivators are adopting better management practices. Maharashtra topped cashew production with 1,83,000 MT followed by Andhra Pradesh at 92,000 MT. Maharashtra also ranked 1st in productivity with 1300 kg/ha followed by West Bengal 950 kg/ha and Kerala 900 kg/ha (Venkatesh 2007).

Cashew is traditional crop of Konkan region, mainly grown on hill slopes as rainfed perennial horticultural crop. The Konkan region of Maharashtra comprising of Thane, Raigad, Ratnagiri and Sindhudurg districts is the major tract of cashew cultivation. The total area under cashew cultivation is 1.60 lakh hectares of which more than 80 per cent (1.30 lakhs ha.) is in the South Konkan region of Maharashtra, mainly in Sindhudurg and Ratnagiri district. Therefore, it is attempted in the present study to understand cultivation and processing of cashewnut by selecting one district like Sindhudurg.

2. HYPOTHESIS:

The study mainly focuses on cost structure of cashewnut production in the district. This exercise may be useful to understand to what extent farmers would be benefited due to processing activity. The study mainly aims at understanding the effect of “Value addition” by way of cashewnut processing activity. Therefore the hypothesis of the study may be outlined as below:

“The cashewnut processing industry in the Sindhudurg district is useful to improve the income of the farmers and thereby the standard of living.”
3. STUDY AREA:

The Sindhudurg district has been selected for the study because it is one of the two important cashewnut producing districts of Maharashtra which is 1st ranked state in the country in cashewnut production.

4. OBJECTIVES OF THE STUDY:

The Sindhudurg district is one of the cashewnut producer district in the Konkan region. There are various cashewnut processing units dominant in Sindhudurg district. The study mainly aims at understanding the net gains at the farmers end. It further aims to find out the impact of the industry on the rural economy of the district as cultivation of cashewnut is the significant agricultural activity in the district. With this view in mind following specific objectives have been outlined:

1. To study in brief geographical setting of the Sindhudurg district as a basis for the growth of cashewnut cultivation and processing industry.
2. To review the historical background of cashewnut industry in the Sindhudurg district.
3. To study the spatio temporal distribution of cashewnut, cultivation and processing.
4. To carry out cost structure of the selected cashewnut processing units.
5. To analyse the effect of cashewnut processing units, on socio-economic conditions.
6. To study the problems and prospects of cashewnut cultivation and processing in Sidhudurg district and to develop strategy for future growth.

5. METHODOLOGY:

As revealed from the previous literature present study has used cost-benefit-analysis of the cashewnut cultivation and processing. The study has attempted to develop planning strategy based on the results obtained in the analysis.

The methodology for this kind of analysis require proper sampling and field study with structured questionnaire.

5.1 SAMPLING:

The district is divided into 8 tahsils. In each tahsil village code numbers are used for random selection. This selection process has been to select 2 villages from each tahsil. The map (Fig.1) shows the location of randomly selected cashew nut cultivating villages in each tahsil. About 10 farmers have been enquired with the help of structured questionnaire from each randomly selected village. Thus the cost-benefit analysis is based on answers given by 160 farmers covering 371.28 hectares of cashewnut orchards. The district has 64366.33 hectare area under the cashew cultivation. There are about 50 cashew processing units located in the district. The district affords suitable geographical conditions for cashewnut cultivation and favourable environment for
cashewnut production. The production areas has good linkage with Mumbai for export market.

5.2 DATABASE:

The primary data regarding cost structure, capital investment, fertilizers, pestisides etc have been used in the study. The secondary informations has also been collected from the District statistical abstract, agricultural bulletins, fruit processing reports etc. This information has provided the details regarding cultivation, processing history, marketability, nutrient status etc. of cashewnut.

5.3 DATA ANALYSIS:

By using usual statistical techniques like trend analysis moving average etc. have been used. Cost-benefit-analysis, comparative cost structure, cash flow analysis etc. have been carried out for the primary data.

5.4 PLANNING STRATEGY:

The main objective of the study is to design planning strategy. Here the strategy has been outlined on the basis of cash-flow analysis is such a way that profitability of the farmers should increase.

6. BACKGROUND INFORMATION OF THE DISTRICT:

List of cashew processing units was obtained from D.I.C. of Sindhudurg districts. According to this information, there have been 50 units in Sindhudurg district and only four units have been in Ratnagiri district. To obtain adequate
sample size, Sindhudurg district was selected purposively. At the time of data collection, it was observed that some of the units have been not in existence as they have been closed. To overcome this problem, personal discussion was made with office bearer of the Konkan Cashew Processors and Exporters Association at Vengurle. According to them, 18 units have been in operation. All these units have been selected and contacted personally. The information related to various aspects have been recorded in a well designed schedule. The information so collected pertained to the year 2008-2009.

7. OBSERVATION AND FINDINGS :

1. GENERAL:

   1. Concept of fruit processing industry and Agricultural Scenario of Sindhudurg District. The production of cashew nut has increased from 0.36 million tonnes in 1997-98 to 0.47 million tonnes in 2001-2002. There is need to identify gaps in adoption, so that it could be used as basis for technical planning of demonstrations/training programmes.

   2. It is necessary to understand the cashew processing as a system and to analyze the system for knowing the quantity and recipients of the benefits. These kinds of study can be useful to develop policy instrument in such a way that the benefits of cashew nut processing should reach to the farmers nearing there by maximum cost should be paid for local soil, water, and human resources in the region. It is in the sense study has academic as well as social relevance.
3. Training in cashew processing is being provided on regular basis at Gopuri Ashran at Kankavli and M/S Hedgewar Seva Prakalpa (HSP). There is a lack of awareness and enterprise among cashew farmers about agriculture management practicals to be followed by improving yield existing plantation. Thus the favourable geographical condition and Government policies are suitable to this cashewnut processing industry in the district.

4. Cashewnut processing industry in the Sindhudurg district is main economic activity, and in future it will be tremendous growth and development. State Government and Agriculture department gives various facilities and 100% grants to the farmers. Land under cashew cultivation in increasing but in this study there is limitations.

2. PHYSIO-SOCIO-ECONOMIC SETTING OF THE REGION:

The study of background information necessary to understand the economic implications of the physical conditions under which production is carried out. The various factors like topography, location, climate, rainfall, soil, irrigation, marketing, and communication facilities decide the stability of particular enterprise in the area. Therefore a brief account of socio-economic conditions prevailing in the selected area is given so as to have better understanding of the region and the interpretation and implications of findings of the study. Therefore, the physiography, social and economic factors are the major hidden basic components of farmers and fruit processing industries in the district.
Sindhudurg is the Konkan area of Maharashtra having stretch of land on the west coast of India, endowed with the beautiful seashore, picturesque Mountains and scenic natural beauty and known for tropical fruits like the world famous Alphonso mangoes, cashews, Jamuns etc. Sindhudurg district was earlier a part of the Ratnagiri district. For administrative convenience and industrial and agricultural development Ratnagiri district was divided into Ratnagiri and Sindhudurg with effect from 1st May, 1981. Geographical location of the Sindhudurg district is lies from 15.37 N to 16.40 North Latitudes and 73.19 E to 74.18 East Longitudes. The district is surrounded by the Arabian Sea on the west, the Belgaum district and Goa on the South, and the Ratnagiri district on the north and Sahyadri hill ranges to the East. Sindhudurg district is spread over an area of 5287 sq. km. Sindhudurg district now comprises of 8 tahsils of Sawantwadi, Kudal, Vengurla, Malvan, Devgad, Kankavli, Vaibhavwadi and Dodamarg. 743 villages are situated in various tahsils of the district. The map (Figure no.2) shows that the tahsils of sindhudurg district.

The study has attempted to understand the social profile of the district. The various components like population, health, culture, education, tourism, banking, transport and communication and others facilities determine the suitability of a particular area for certain enterprises in the area. Therefore, the social factors are the major hidden basic components of farmers and fruit processing industries in the district. Located on the southernmost fringe of Konkan and the last district of Maharashtra on the coast, the district is not
much known for its history or any other aspect. It has a composite social structure as similar to that of remaining Konkan area. The majority of the people are farmers and there is hardly any industry of greater consequence that provides employment to the locals. Fishing is a flourishing business because of coast and creek.

Konkan Agricultural University creates new varities of cashew and provides to the farmers. Due to this cashew cultivation area is increasing in the district. Thus the cashew processing industry is dominant from ancient period.

3. DISTRIBUTION OF CASHEW NUT PROCESSING UNITS:

The various components like establishment of the units, form of ownership, scale wise distribution of the processing units, technology for the processing, cashew and by products are the major components. Sindhudurg District is the southern part of the greater tract famous for its long coast line and safe harbors’ having basically agriculture oriented economy. It receives rainfall for about four months from June to September.

Sindhudurg District enjoys warm and humid climate throughout the year. The year can be divided into 3 seasons. Winter season is from November to February, March to May Summer season and Kharif season is from June to October. Selection of suitable cashew varieties for the specific region and appropriate package of practices determines the final yield. More than 30 varieties which are having exportable grade of cashew kernels are released from different research institutes in India and details are furnished.
Harvesting is generally done by collecting the nuts from the fallen fruits, by hand picking and with a long bamboo pole to which a hook is fitted at the tip. No fruit harvesting devices were reported for cashew in the literature. Harvesting and collection of nuts is done almost every day. Harvesting of cashew crop is not done at a time because from flowering to harvest nearly 2.5 to 3 months time is required since flowering occurs in two to three waves harvesting of fruits and nuts also varies. The duration of the harvest extends from 45 to 60 days, April-May is the peak season in and around Bangalore. In other parts of the country duration of the harvest is slightly more extending from 45 to 70 days.

Cashewnut processing is generally done on a home scale and factory scale. In the home scale the dried nuts are burnt in an open fire and hand shelled. The nuts which are required to be processed at factory should be dried again for 1 to 2 days to reduce and maintain the moisture level of 7 to 8 percent. Processing of cashew nuts can be defined as the recovery of edible meat portion the kernel from raw nuts, by manual/mechanical means.

In Maharashtra and Sindhudurg district, the processing is mostly manual. The process is highly labour intensive and the work force consists mainly of women. It consists of moisture conditioning roasting, shelling, drying, peeling, grading and packing.

The highest price is paid for better quality kernels of the W180 and W210 grades which are the largest and heaviest grades. The processing of cashew in the orchard is mainly confines to removal raw nuts from cashew
apple and drying. Harvest only fully matured nuts. Cashew nut shell liquid is a valuable raw material obtained as a by product during the isolation of cashew kernel.

4. COST STRUCTURE:

In the present age of competition, the success of any enterprise in the business of agriculture can be judged on the basis of economic benefits accrued to entrepreneur from a particular crop or livestock enterprise. It has become necessary for the farmers to look towards agriculture as a commercial proposition, particularly fruit crops like cashew which has long economic life of almost 40 years. Returns from cashew are spread over longer period, on the other hand during development stage of orchard, large investment is made in establishment of orchard. The production performance of raw cashew nut, investment pattern in cashew processing unit, cost and return structure in cashew processing unit, performance of cashew processing unit and the problems faced by the unit and measures for effective functioning of the unit.

The average age of the cashew grower is 48.70 years. This indicated that, cashew growers have been in adult age group. It is observed that, overall educational score is 10.64. This indicates that by and large the cashew growers in the study area have been educated from 10th to 11th standard. Size of the family is the important factor influencing the supply of farm labour. It also affects income generating capacity of farmer’s family.

The cashew orchard starts bearing generally after five years from the year of plantation. The establishment cost includes the variable, material and
fixed costs. The cashew growers have to invest considerable amount in the form of inputs for establishment of the cashew orchard up to its bearing stage. Considering above changes, the approximate cost of establishment of local varieties of cashew orchard is estimated to Rs. 87430.56.

As regards the per hectare quantities of physical inputs utilized for HYV cashew orchard more than the local variety of cashew orchard. Per hectare net returns obtained from local varieties have been Rs. 24219.20 and the benefit cost ratio is 1.80. In case of HYV, per hectare net returns obtained have been as Rs. 46897.38 and benefit cost ratio is 2.00.

The selected units have been classified as small having working season upto 225 days, medium working season between 225 to 275 days and large, working season above 275 days. The average establishment period is 26.8 years. The units have been also classified on the basis of type of ownership as partnership and individual. There have been 13 units (72.22%) owned and managed by individual, while remaining 5 units (27.78%) in partnership.

The working of the units is seasonal in nature. There is a great variation in the working season from unit to unit. It is seen that average working season of unit in small, medium and large group is 187.40 days, 261.24 days and 298.76 days, respectively. The per unit male employment is 2.4 days, 4.6 days and 3.2 days in small, medium and large group respectively, while per day female employment is 19.2 days, 40.3 days and 52.4 days in small, medium and large group, respectively.
The comparison between the small, medium and large size processing units revealed that, the total fixed capital investment increased with the increase in size of the cashew processing units. In all the three size groups the fixed capital investment on building and land accounted for a major share followed by machinery and equipment, infrastructure and other fixtures. Actual expenditure incurred on purchase of raw nut, salary, wages, packing material, taxes, rent, fuel etc. have been included in working capital.

At the overall level the per unit working capital investment is found to be Rs. 83.44 lakh. Major amount is spent on the purchase of raw cashewnut, from the total working capital investment in running the cashew processing industry. It is found that, purchase of raw nuts shared Rs. 30.41 lakh (93.05%) in small group, Rs. 82.14 lakh (91.62%) in medium group and Rs. 114.20 lakh (91.87%) in large group.

The average aggregate capital invested per processing unit is Rs. 94.47 Lakh. The investment pattern of the cashew processing units revealed that, there is a direct relationship between total capital invested and size of the processing units. The capital investment increased with the size of units, because of the increased requirement of fixed and working capital. The major part of the working capital invested is for procurement of cashewnut (raw material) which is seasonal in nature.

At overall level on an average, the quantity of cashewnut procured is highest in the months of April and May, which is 603.28 q. (37.25%) and 601.42 q. (37.14%), respectively. In the months of June, July and August, it is
244.57 q. (15.10%), 95.52 q. (5.90%) and 74.60 q. (4.61%), respectively. The total quantity procured is 1619.39 q. at the overall level.

The cost of processing is the most important factor on which the success or failure of the unit depends. More the cost of processing, lesser is the profit margin to the unit and vice-versa. Handling charges, drying, salary, wages, bonus, packing material, fuel charges, taxes and rent, depreciation, interest on fixed and working capital are the items of cost of processing. The cost of processing per quintal of cashewnut is Rs. 872.65 in small group, Rs. 940.46 in medium group and Rs. 937.95 in large group whereas at overall level per quintal cost of processing is Rs. 938.45. The per quintal cost of processing exhibited positive relationship with the scale of production. This revealed that, processing is costly in the units of large capacities. The major cost is interest on working and fixed capital. At the overall level, it is Rs. 429.21 (45.74%) and Rs. 68.11 (7.26%) respectively.

At the overall level, one quintal of cashewnut when processed resulted in 24.70 kilograms of kernels (24.70%). 70.00 kilograms of shells (70.00%) and 3.00 kilograms of testa (3.00%) and 2.30 kilograms of rejection (2.30%).

At the overall level, the net returns worked out to Rs. 23.93 lakh. Considering the total cost of processing and quantity of kernels received, the per quintal cost of production of kernel is worked out. It is Rs. 22418 at the overall level, whereas it is observed that per quintal cost of production of kernel is found to be increase with increase in size of factory, which is Rs.
22156 in small group. Rs. 22175 in medium group and Rs. 22578 in large group.

Due to processing of agricultural produce its sale value increases. This increase in value because of processing over its original value is called as added value.

The per quintal gross added value is worked out by deducting cost of raw material charges from the gross value received and net value added is worked out by deducting processing cost from gross added value received. The gross added value in cashew processing is 43.07 per cent, 47.59 per cent and 54.64 per cent in small, medium and large group respectively. Whereas net added value in cashew processing is 24.34 per cent 27.70 per cent and 34.95 per cent respectively. At the overall level the gross added value came to 48.18 per cent and net added value came to 28.36 per cent. It is observed from the table that, as the working season increased the gross added value is found to increase.

5. PROBLEMS AND PROSPECTS OF CASHEWNUT PROCESSING INDUSTRY:

Cashewnut processing on commercial basis was initially started in Mangalore, in Karnataka. In 1927 the business started in Quilon of Kerala, later it became the centre of trade. Maharashtra is one of the leading cashew growing state. In Maharashtra, more than 90 per cent area under cashew is concentrated in Konkan region. Cashew possesses high economical as well as nutritive value. In spite of it’s importance it’s cultivation has not fetched the
careful attention of farmers, due to lack of knowledge about standard package of practices, timely unavailability of good quality planting material and inadequate market infrastructure facility. Cashew is seasonal in nature and price fluctuation due to various agencies involved in marketing of nuts is a major problem in this fruit crop. It is therefore, highly essential to standardize the storage methodology and marketing facility for this crop.

Regarding the problems of processing factories, the bank finance was not easily available and high interest rate of bank have been the most prominent. Shortage of labour, non availability of good quality raw material, frequent failure of electricity, non availability of skilled labour have been the major problems.

On the basis of analysis made and its recapitulation, some strategy had drawn for progress of cashew growers and industry. Processing unit requires huge amount of raw material and gives around 90 per cent of female employment in the region. Grading and sorting of raw nuts should be done at the production site. Since grading in vogue was improper. All the unit owners are facing the problem of credit. The credit was not available in adequate quantity and at proper time. Because of this problem, they could not purchase sufficient quantity of raw material which was available in nearby area. To overcome this problem, it is necessary to make modifications in lending policy of financing institute. Low capacity utilization by the cashew processors is hindering the progress of this industry. To overcome this problem, Government may improve electricity supply failure, revise credit policy by way of providing
easy credit availability and lower interest rate. Co-operative cashew processing units are required to be established in this area for getting additional benefit in income and employment.

6. CONCLUSION:

1. PRODUCTION:

i. Cashew is the perennial cash crop which is having gestation period of five years. In this period to establish a cashew orchard growers have to incur huge expenditure. It is observed from the study that, on an average an amount of Rs. 114610.83 was required for establishing one hectare of HYV cashew orchard, while the approximate cost of establishment of local cashew orchard was worked out to Rs. 87430.56.

ii. In establishing a cashew orchard (HYV) highest amount (34.50%) was incurred on labour wages. Out of total establishment cost, 42.04 per cent was incurred during the first year, 15.92 per cent during second year, 15.78 per cent during third year, 13.25 per cent during fourth year and 13.01 per cent during fifth year. This indicated that, maximum expenditure was incurred during the first year.

iii. Regarding groupwise cost of cultivation of cashew orchard was observed that per hectare cost of cultivation was considerably maximum, (Rs.46793.29) in HYV cashew orchard than (Rs. 30257.40) in local variety cashew orchard. In local variety cashew orchard the share of cost ‘A’ was 26.35 per cent and cost ‘B’ was 86.98 per cent. In
HYV cashew orchard the share of cost ‘A’ was 29.49 per cent and cost ‘B’ was 87.92.

iv. Regarding profitability of bearing cashew cultivation, in study area the per hectare net profit was considerably higher in HYV cashew orchard (2.00) than local variety cashew orchard (1.80) as indicated by benefit cost ratio.

2. PROCESSING:

i. The cashew processing unit in the region had provided 1.92 lakh day employment. Out of the total employment, nearly 92.00 per cent was female labour employment.

ii. The average capital investment per unit was Rs. 94.47 lakhs. The investment on working capital was more (88.32%) than the fixed capital (11.68%) Of the total working capital invested, the purchase of raw nuts shared about 91.87 per cent.

iii. The per quintal cost of processing was Rs. 938.45 and exhibited positive relationship with the scale of production.

iv. One quintal of cashewnut when processed resulted in 24.70 kgs of kernels. The gross and net value added came to 48.18 per cent and 28.36 per cent, respectively. The picture of utilized capacity in relation to installed capacity was to the tune of 64.05 per cent of the total capacity utilized. The cost-benefit ratio for unit was 1.25.
v. Major problems faced by the unit have been mainly related with finance, followed by quality of raw material, labour, electricity supply etc.

8. RELEVANCE OF THE STUDY:

At the end of this work it is felt that the study is quite relevant. It is useful to understand the cost structure of the cashew plantation and processing activities. This has direct relationship livelihood of the farmers. Some of the results of the study have thrown light on how to save cost of production and improve marketability of the same. In addition to this the study states how advantage of “Value addition” can be sought of by the farmers.

So far as geographical studies are concerned the preset works is in tune with the recent trends in Agricultural Geography. It gives idea about how to use cost-benefit analysis as a tool to understand geographical parameters. The study may be considered as good addition in the knowledge of Agricultural Geography.

9. LIMITATIONS:

Obviously, present work is not free from any limitations. The candidate is aware of the limitations regarding data collection, data analysis and exposition. The cost of production is mainly based field enquiry without any laboratory experiments. However, this may be considered as more realistic data as it comes from the farmers who are practicing cashew cultivation in the
given geographical situation. The cost structure is open for correction in different geographical situations.

It may be remarked that in depth study may be carried out in future by the same scholar or other researchers in the field of agronomy, agriculture geography and environmental management.

10. FURTHER STUDY:

The present work has outlined the planning of strategy how to transfer benefits of ‘notidda eulaV’ to the farmers and to reduce ‘risk’. However, it is not completion in the sense that proper ‘action plane’ suitable to different geographical situations. Therefore it may be suggested to carry out comparative cost-benefit-analysis for different area producing cashewnut.

As a part of further study it may be suggested to integrate this type of work with the scenario of globalisation, national policies and environmental aspects of farming. It would be interesting to evaluate cashewnut cultivation in terms of cost, output, quality and marketability if principle of organic farming are adopted. Furthermore, it may be worth studying the impact of environmental degradation on cashew plantation.

The present work has given proper methodology to understand costing of plantation crop. It may be applicable to other plantaion crops also. Therefore it may be suggested that the cost-benefit-analysis of other crops like mango, pepper, jambhul etc. may be carried out as further study.
Thus, the present work provides good academic background for various types of further studies.

11. CONCLUDING REMARKS:

The present work has outline strategy to achieve development of the farmers cultivating cashew. It also has suggested the strategy that cashew nut processing activity should be carried out by farmers on co-operative basis to achieve improvement of farmers ‘economic status’. Thus, the hypothesis stated in the beginning is accepted in the work.