DEVELOPMENT GOALS AT THE GRASSROOTS : POLICY PERSPECTIVES AND CHALLENGES









Editors : Dr.B.Subburaj ✦ Dr.R.Seerangarajan

Faculty of Rural Social Sciences,

Gandhigram Rural Institute - Deemed University

Gandhigram, Tamil Nadu, India.

in association with

National Bank for Agriculture and Rural Development

NABARD - Chennai

VALUE CHAIN PERSPECTIVE OF NEERA– A CASE STUDY OF KODUNGALLUR COCONUT PRODUCER COMPANY LTD.

Dr.G.Veerakumaran and Miss.GeethuKuriakose

Statement of the Problem

Value addition is the process of changing the form of a product from its original state to other states which make it more valuable. Value addition in agriculture is gaining a huge importance as it gives a solution to the problem of perishability of agricultural products and increases its shelf life. The value added products will have some additional qualities which will add more value to the product through which the farmers get more income.The major and traditional value added products from coconut are copra and coconut oil. Since hardly 2% of the coconut is utilised for value addition, it is important to study the scope of value addition in coconut.

Neera is one value added product which is tapped out from the immature unopened inflorescence of coconut palm. Neera is a non-alcoholic, nutritious health drink having medicinal values. The study is carried out as per the advice of KCPC Ltd.Board of management to understand the value chain of Neera and the impact of company on its members.

Objectives of the Study

- To map the value chain of Neera.
- To study the impact of Producer Company on farmers.
- To study the consumer satisfaction of Neera.

Research Methodology

The study was mainly based on primary data collected as mentioned in the Table no.1

Table.1 Sample Size of Respondents

Respondents	No. of Samples	Tools used
Farmers	60	Interview schedule
Consumers	30	Interview schedule
Producer Company	1	Questionnaire
Federation	1	Questionnaire
Society	1	Questionnaire

The producer company selected for the study was Kodungallur Coconut Producer Company Ltd. in Thrissur district. The federation and society selected for the study wereEdathiruthy Federation of Coconut Producers Societies and Edathiruthy Coconut Producers Society respectively.

The analysis were carried out by using the tools namely, mapping of value chain, percentage analysis, T test for the impact on farmers and satisfaction index for consumer satisfaction.

Organisational Profile

Kodungallur Coconut Producers Company Ltd. being the 7th coconut producer company under Coconut Development Boardwas established on 24thOctober 2013. It is registered under Part IXA – Producer Companies in the Companies Act, 1956 at Registrar of Companies, Ernakulam. The head office is situated in Perinjanam in the Kodungallur Municipality of Thrissur district. The area of operation of the company is

extended to the entire Thrissur district.There were23 federations and 436 Coconut Producer Societies under KCPC ltd.

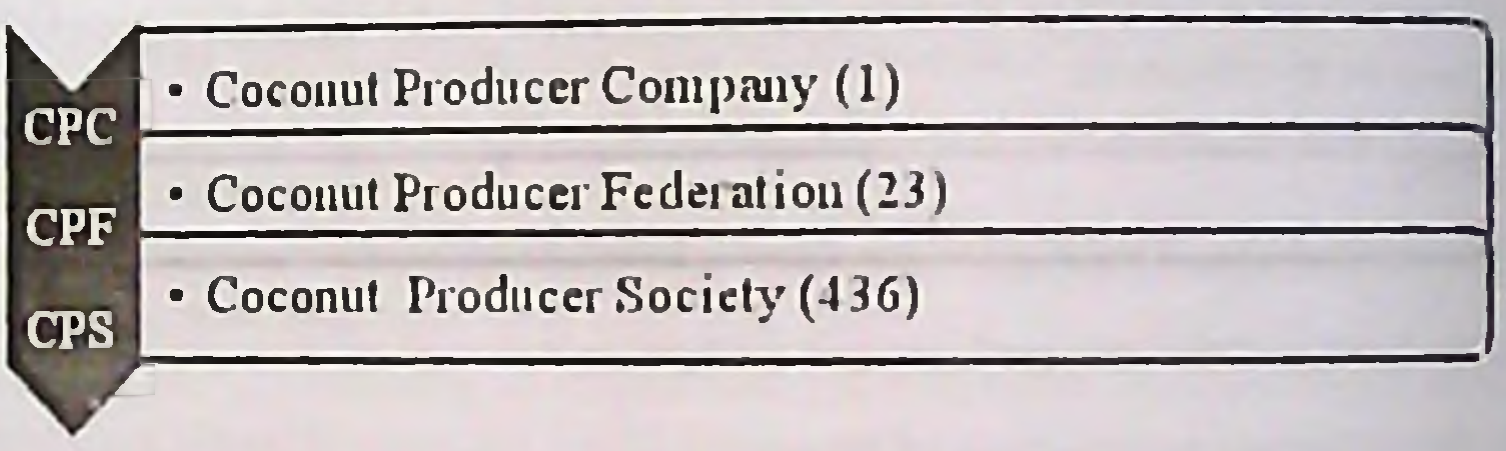
The vision of KCPC Ltd is to build a prosperous and sustainable coconut sector by carrying out various business activities such as production, procurement, processing, and marketing of coconut products.

The organizational set up is three – tier structure with Coconut Producer Company (CPC) at the apex or top level, Coconut Producers Federation (CPF) at the middle level and Coconut producer Societies (CPS) at the grass root level.

The selected Edathiruthi Federation of Coconut Producers Societies was registered on 1st January 2013 with Coconut Development Board under Charitable Societies Act. It is situated in the EdathiruthiPanchayath of Mathilakam Block in Thrissur district. Its area of operation is extended to theMathilakam Block Panchayat.

The selected Mahatma NalikeraUlpadakaSangamwas registered with Coconut Development Board on 1st November 2012 under the Charitable Societies Act. The area of operation of the society is limited to the Edathiruthi panchayat excluding the regions of west Edathiruthi.

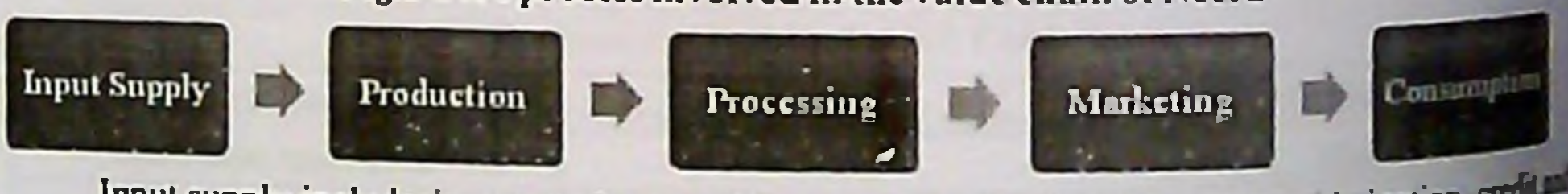
Fig. 1 Organisational Structure



Value Chain Mapping of Neera

1. Mapping the Core Process

Fig.2 Core process involved in the value chain of Neera

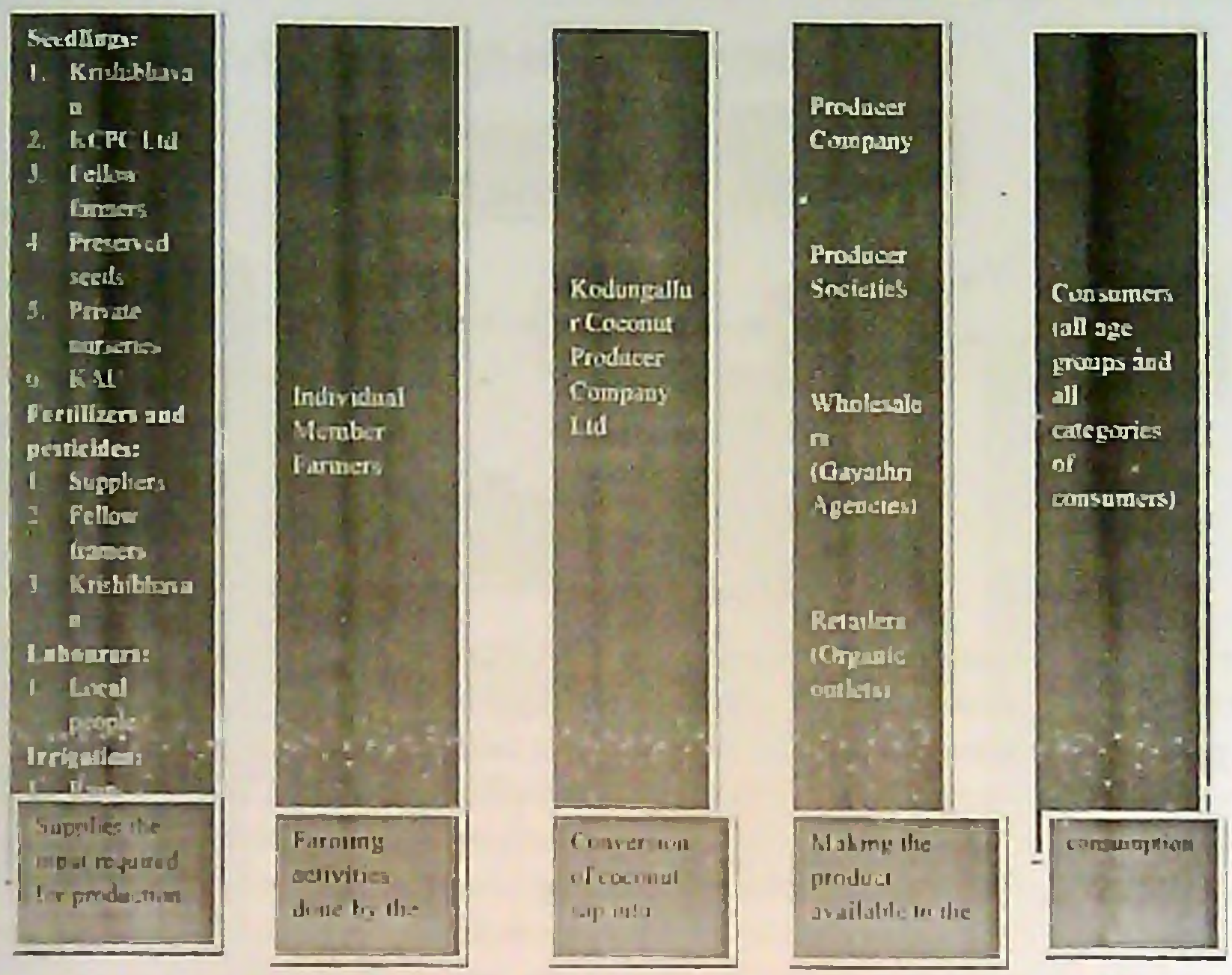


Input supply includesinputs such as seedlings, pesticides, fertilisers, water/ irrigation, credit and extension. Neeratapping is done continuously for a period of six months.Neera was collected twice in a day. The yield of Neera from a palm varies from 1.5 to 6 litres per day. In the processing stage, the collected Neera is filtered, chilled, centrifuged and pasteurized. Marketing of the product is done by the Kodungallur Coconut Producer Company Ltd. Finally consumers use the product as a health drink and a soft drink.

2.Main Actors Involved in the Value Chain

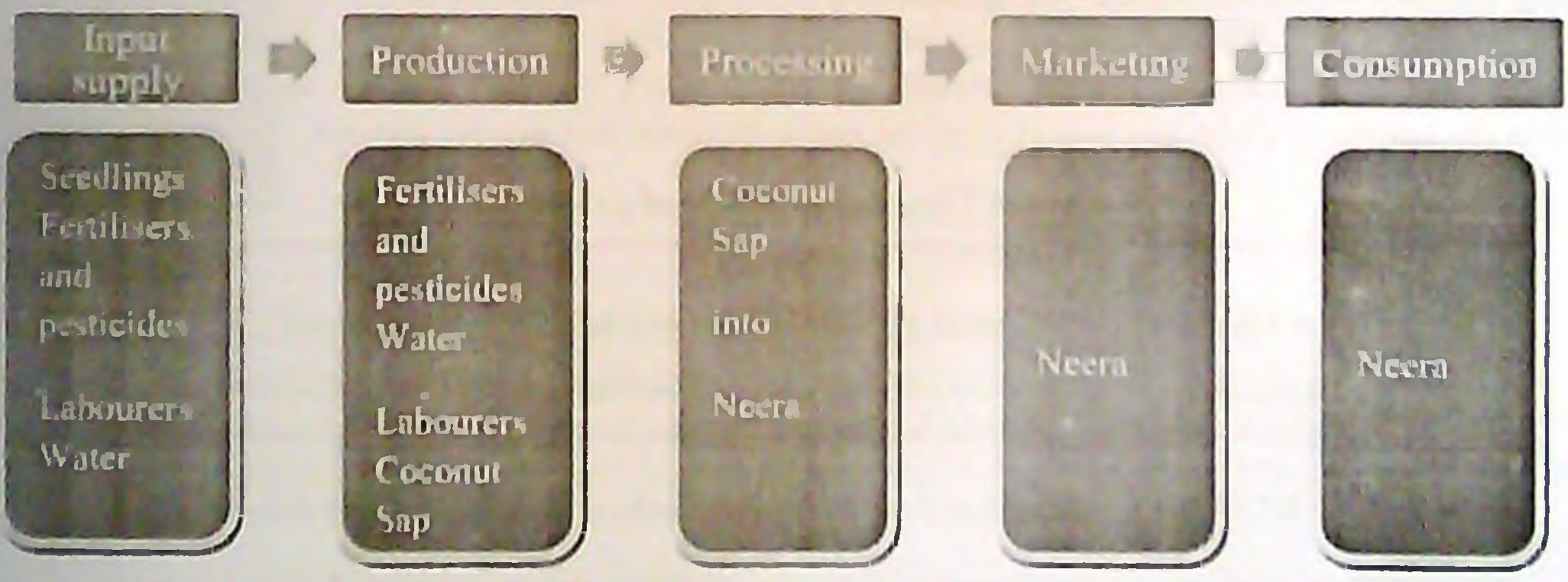
Farmers avail seedlings from Krishibhavan, fellow farmers, Kodungallur Coconut Producer Company Ltd., private nurseries, from their own preserved seeds and Kerala Agricultural University. In the production stage the farmers do the farming operation. The processing of coconut sap into Neera is undertaken by the company itself. In the marketing stage company make the product available to the consumers through wholesalers and retailers. Finally at the stage of consumption, consumer consumes the product.

Fig. 3 Actors Involved and their Jobs in the Value Chain of Neera



3.Flow of Products

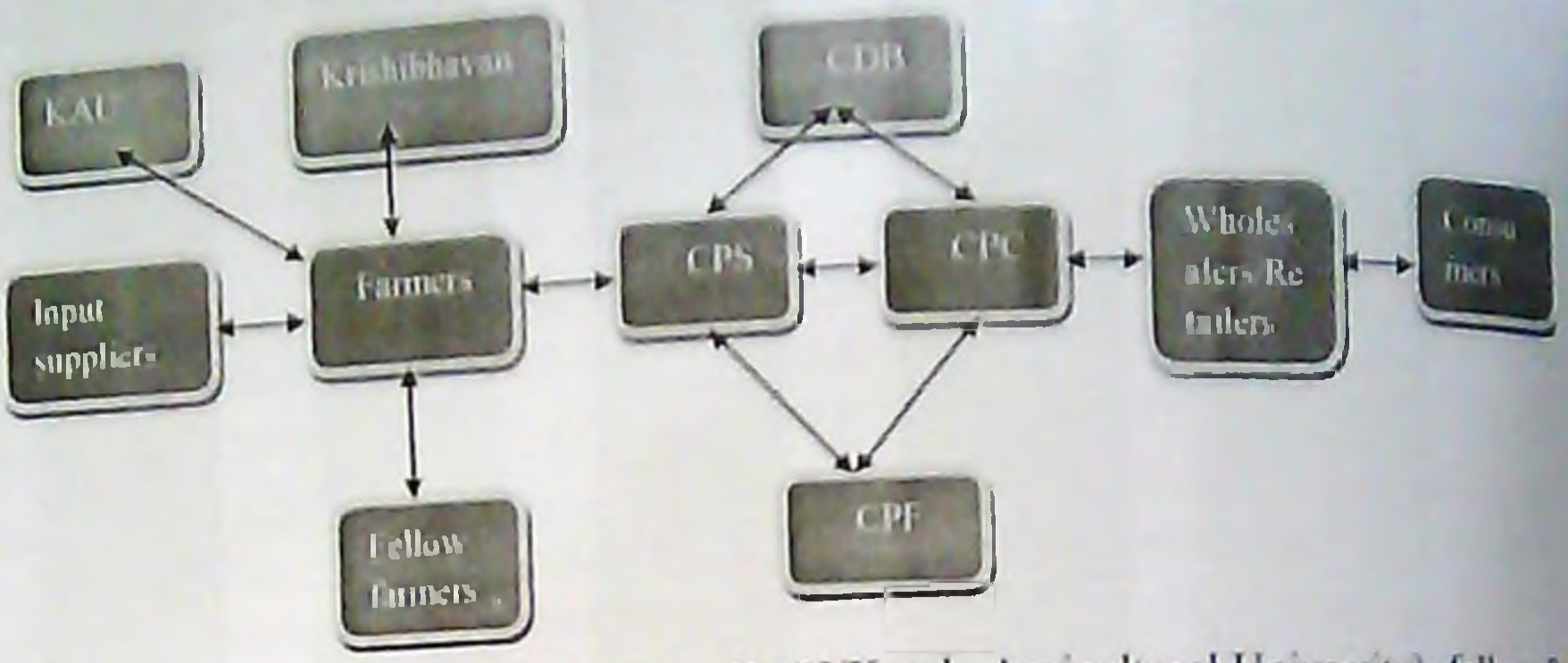
Fig. 4 Flow of products



The products handled at the input supply stage are seedlings, fertilisers , pesticides, labourers and water. At the production stage coconut sap is tapped out is moved to the Producer Company. At the processing stage coconut sap is converted into Neera. The end product 'Neera' flowsto the consumers.The survey among the farmers and company reveals that the company during the data collection period procures an average of 100 L of coconut sap per day from farmers. The procured coconut sap is fully converted in to Neera and sold. The KCPC has got a plan to expand this business to the entire district.

1.Flow of knowledge and information

Fig. 5 Flow of knowledge and information

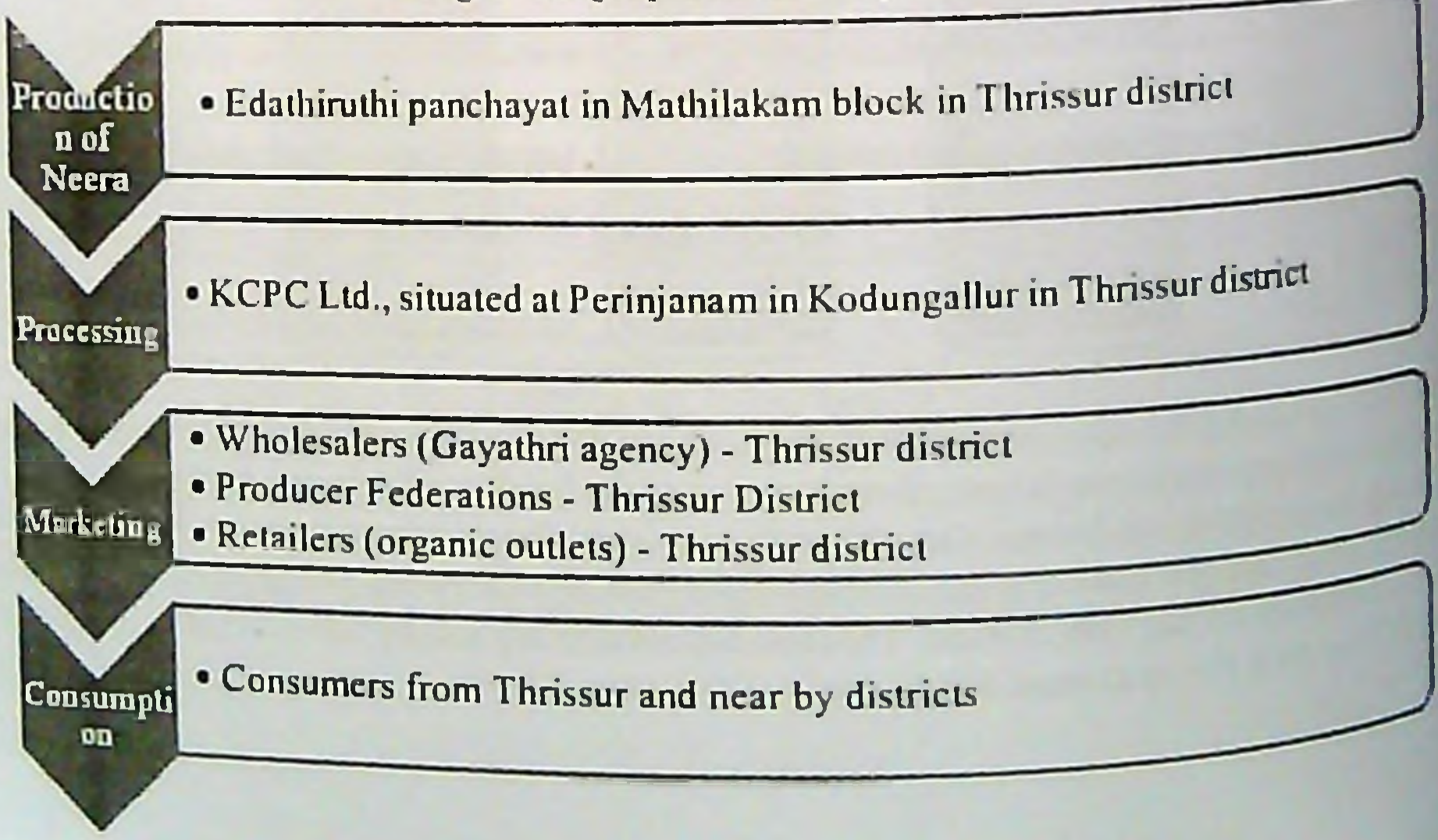


The farmers get information from input suppliers, KAU(Kerala Agricultural University), fellow farmers, Krishibhavan and CPS (Coconut Producer Society) regarding the new varieties of seedlings, supply of fertilizers, pesticides, schemes and subsidies for coconut cultivation etc. The CPS gets the information from the farmers regarding potential coconut trees. CPC (Coconut Producer Company) gets information from CPS, CPF(Coconut producer Federation) regarding the production, productivity of coconut trees of the member farmers. CDB (Coconut Development Board) gives information regarding the new technologies of processing to the CPC. The CPC gets the information about the movement of their productand the consumers get the information about the new products and from the wholesalers/ retailers.

5.Mapping the Geographical Flow of Product

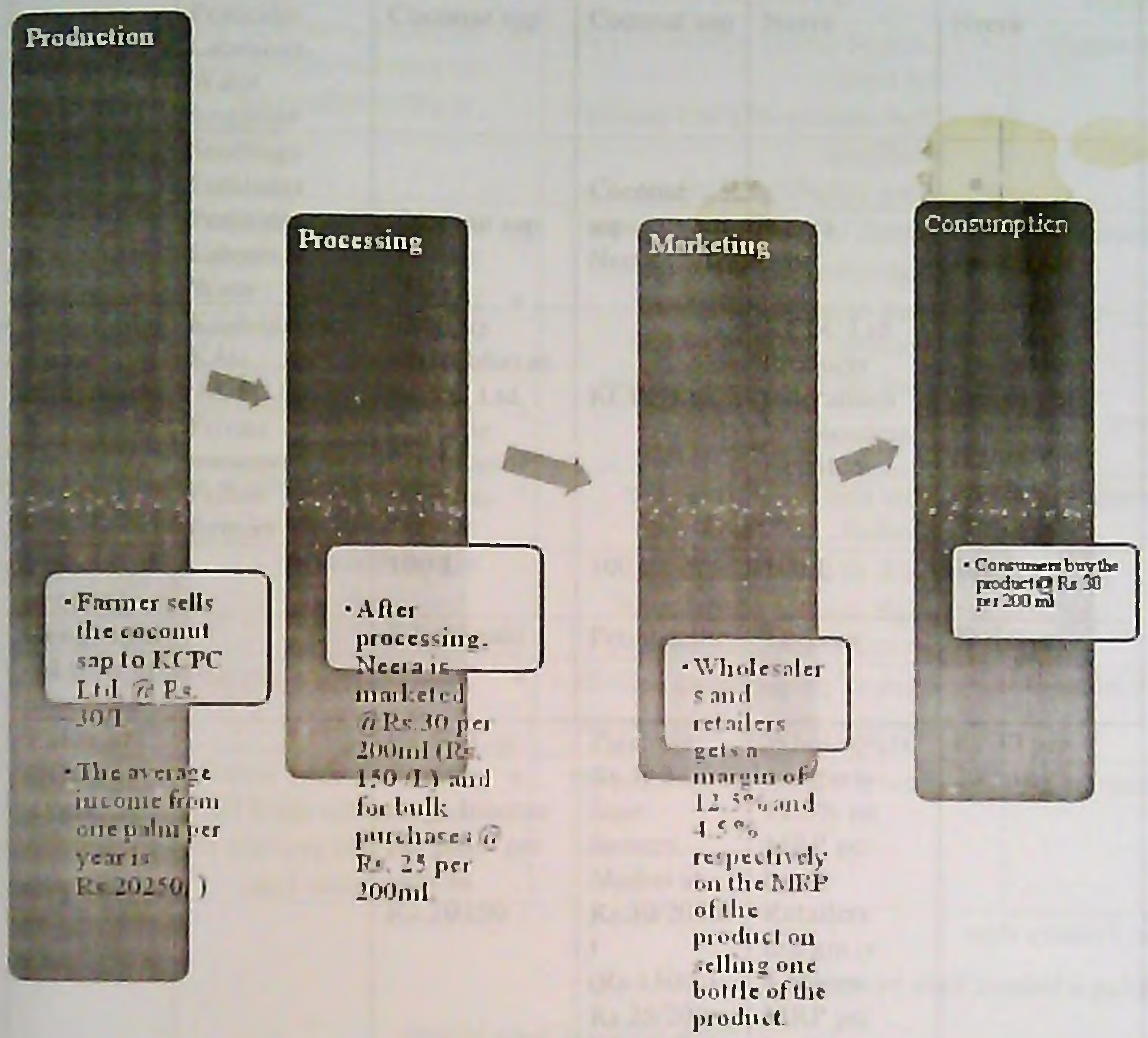
During the data collectionperiod the production takes place only in Edathiruthy panchayat. It is then transported to KCPC ltd situated at Perinjanam for processing. At the stage of marketing the product reaches all over the Thrissur district through the wholesalers, retailers and the federations and finally reaches the consumers who are spread over the entire Thrissur and nearby district.

Fig. 6 Geographical flow of product



6. Mapping the value at different levels of Value Chain

Fig .7 Value of the product at different level



The farmers sell the coconut sap at the rate of Rs. 30/L to the CPC. The farmer will get an average income of Rs. 20250 per palm per year from Neera tapping. (Assuming average daily extraction of Neera is 3.75 Litre; price of sap is Rs.30 and tapping done regularly for six months). The company fixed MRPof Neera at Rs. 30 per 200 ml. The wholesalers get a margin of 12.5 % and retailers gets a margin of 4.5 % on the MRP of the product per bottle.

7. Mapping Constraints and Potential Solutions

The survey among the farmers and consumers facilitated the authors to consolidate the constraints and potential solutions as mentioned follows:

Table.2 Constraints and Potential Solutions

Steps	Problems	Suggestions
Input supply	• Lack of timely availability of the inputs. • High quality of good quality seedlings. • Price volatility of inputs	• Krishibhavan may introduce a scheme to provide high quality good seedlings at affordable price.
Production	• Attack of pests and diseases • High growth period • Lack of availability of labourers and high wage • Lack of Neera technicians	• Krishibhavan may provide subsidies for organic and chemical pesticides • Krishibhavan, CPC, CDB may make arrangements for supply for seedlings of lower growth period • The CPC mayform trained labours post.
Processing	• Low shelf life of the raw product • Lack of trained persons • High cost for adoption of processing technology	• CDB may introduce new technologies and provide those to the company at affordable rates
Marketing	• Lack of promotional activities • Damage during transportation	• The company mayadvertise
Consumption	• Low shelf life of the product	• The CDB may introduce technology to increase the shelf life of the product and should provide it to the company at affordable cost.

Source: Primary data

8. Making a Value Chain Matrix

Table.3 Value Chain Matrix

	Input supply	Production	Processing	Marketing	Consumption
Actors	Krishibhavan KAU KCPC Ltd. Private nurseries Fellow farmers	Farmers	KCPC Ltd.	KCPC Ltd. Producer Federations Wholesalers (Gayathri agencies) Retailers (organic Outlets)	Consumers
Jobs	Supply of required inputs	Farming	Processing of coconut sap into Neera	Neera made available in the market	Consumers consume Neera

	Input supply	Production	Processing	Marketing	Consumption
Inputs	Seedlings Fertilisers Pesticides Labourers. Water Irrigation	Coconut sap	Coconut sap	Neera	Neera
Products	Seedlings Fertilisers Pesticides Labourers. Water	Coconut sap	Coconut sap-Neera	Neera	Neera
Knowledge and information	Krishibhavan KAU KCPC Ltd. Private nurseries Fellow farmers	Farmers Krishibhavan KCPC Ltd. Coconut Producer societies	KCPC Ltd.	KCPC Ltd. Producer federations Wholesalers Retailers	Consumers
Volume of products		100 L	100 L	100 L	100 L
Geographical flow of products		Edathiruthi	Perinjanam	Thrissur	Thrissur
Value at different levels		Rs.30.L to farmers. Avg. Income per palm per year is Rs.20250	Purchase Rs.30/L from farmers. Market at Rs.30/200ml (Rs.150/L), Rs.25/200ml for bulk purchase	Wholesalers margin is 12.5% on MRP per bottle Retailers margin is 4.5% on MRP per bottle	Rs.30 per 200ml.
Constraints	Lack of timely availability and price volatility of inputs	Attack of pest and diseases, Lack of availability of labour and high wage	High cost of technology, Lack of trained persons, Low shelf life of raw product	Lack of promotion. Damage during transportation	Low shelf life of product
Solutions	Provide high quality good seedlings and other inputs at affordable price through Krishibhavan.	Arrangements for subsidies , labourers , technicians through various agencies	Provide technologies at affordable cost, Provide training	Providing grants for company, Give advertisements in journals	Introduce new technology to increase shelf life of product.

Source: Primary data

Impact on Farmers

The impact of farmers was studied on the changes in the level of income by comparing the farmers' income before joining the society and after joining the society. The t- test was used in the study to find the significant changes in the income level.

Average number of palms is 25 and nuts used for domestic purpose is 200 nuts/year. Before the formation of company average productivity was 90nuts/palm/year and rate at which nuts were sold was Rs.28/Kg. After the formation of company the nuts were sold at the rate of Rs.30/Kg. The productivity of Neera producers were 82nuts/palm/year whereas Neera non producers were 90nuts/palm/year. Tapping was done regularly for a period of 6 months. The average production of Neera/palm/day was 3L and price was Rs.30/L.

Table.4 Details of Average Income Variation per palm per year for the Respondents

Income/palm/year / Farmer Category	Average Income (Rs.)			T value at 5% significant level
	Before the formation of company	After the formation of company	Change	
Neera Producers	2300	18400	16100	16.602
Neera non- producers	2300	2500	200	29.019

Source: Primary data

(Table value of the test at 5% significant level is 2.05)

It can be seen that the income level has increased after the formation of company for both category of farmers. There was a higher changein income for Neera producers due to the production of Neera. Since the calculated absolute t value for both Neera producers and Neera non producers were greater than the table value there is significant variation in the income of Neera producers due to the formation of company.

Additional Income for Neera Producers

The farmers' annual income from coconut cultivation before Neera tapping was merely the income from the nuts. But farmers started to earn additional income after tapping of Neera and increased their income tremendously.

Table.5Details of Additional Income per palm per year for Neera producers

Income/palm/year / Neera tapping	Average Income (Rs.)			T value at 5% significant level
	Nuts	Neera	Total	
Before tapping	2500	Nil	2500	16.422
After tapping	2200	16200	18400	

Source: Primary data

(Table value of the test at 5% significant level is 2.05)

Table.5 showsthatNeera producers earned an additional income of Rs.16200 per palm per year through Neera tapping. It is clear from table.5 that the calculated absolute t-value is greater than the table value. So there is significant variation in the income of Neera producers before and after tapping.

Consumer Satisfaction towards Neera

Thirty consumers were surveyed using structured interview schedule at the point of sale. Likert scaling method was used to rate and evaluate the level of agreements/ disagreements on various statements regarding Neera. The degrees of agreement/disagreements usedwere strongly agree, agree, no opinion, disagree and strongly disagree. Response indicative of the highly satisfied (strongly agree) was given the highest score of 5 while the highly dissatisfied (strongly disagree) was given the lowest score of 1.The index value was computed by using the formula:

$$\text{Consumer Satisfaction Index} = \frac{\text{Total score for the statement}}{\text{Maximum score}} \times 100$$

$$\text{Mean Index} = \frac{\text{Total indicesofall statements}}{\text{No. of statement}} \times 100$$

The index was classified into 5 categories - very good (above 90), good (70-90), average (50-70), poor (30-50) and very poor (below 30).The overall satisfaction towards the product was studied based on the mean index.

It can be seen that the statements such as Neera is a health drink, superior to other beverages, no side effects and Neera production has a wide scope in Kerala scored an index of above 90 %. This shows that the people were aware about Neera, its scope and health benefits. The statement regarding the promotional activities is least scored. It may be due to the fact that the Company currently produces less than the market requirements. However, in the future, the company may have to promote the product by adopting proper advertising strategies. The mean index is found to be 90.17%. It reveals that the consumers have very good level of satisfaction towards the product Neera.

Table.6 Level of Satisfaction towards different Attributes of Neera

Sl. No.	Statements	Score obtained	Index
1	Neera is a health drink	149	99.33
2	Delicious drink that is rich in vitamins, minerals and amino acids.	141	94.00
3	Good for digestion, clear urination, and works against jaundice.	113	75.33
4	Neera is superior to other beverages.	144	96.00
5	Neera has no side effects.	146	97.33
6	Its packing is good.	145	96.67
7	Promotional activities of the product are satisfactory.	102	68.00
8	Neera production has a wide scope in Kerala.	142	94.67
MEAN INDEX		90.17	

Conclusion

The study entitled 'Value chain Perspective of Neera - A case study on Kodungallur Coconut Producers Company Ltd' was done to analyse the value chain of Neera, the impact on farmers and the consumer satisfaction towards Neera. The mapping gave a detailed picture of the core processes, actors involved, geographical flow of product, the value of product at different stages etc. Neera tapping gave an additional income to farmers over the nut production. The company hasshown the seed of economic success to the selected farmers by meeting the needs of farmers from the stage of production to marketing their produce. Neera has a good market potential in the state with a good level of consumer satisfaction. The vast potential of Neera and other value added products from Neera can give the farmers and their company a good fortune in the near future.