



ISSN 2278 – 0211 (Online)

## Value Chain Management of Coir Pith Blocks: A Study with Special Reference to the Coir Board

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### **Abstract:**

*The project on 'Value Chain Management of Coir Pith: A study with special reference to the Coir Board' aims to identify and map the value chain of coir pith blocks, analyse the role of Coir Board in the chain, point out the constraints faced by the different actors and suggest possible solutions. The study includes Coir Board, Central Coir Research Institute (CCRI), coconut farmers, procuring agents, processing units, aggregators, dealers, Coir Board showrooms and consumers. The actors are spread over both Kerala and Tamil Nadu. The study was based on primary and secondary data. Primary data was collected through structured interview schedule, questionnaires, checklist and discussions with the actors. The tools used for the study are value chain mapping, growth index and percentage analysis.*

*The study identified that the margin earned by the aggregators and dealers is very high, which makes the product costly. The people are not aware of the product as the product is available only in limited retail outlets. Thus, the demand for coir pith blocks is less in the domestic market. The problems encountered by each actor were analysed and some policy interventions were also recommended. While analysing the role of Coir Board in the value chain management of coir pith blocks, it indirectly provides assistance to the actors. The Coir Board has to take more measures to directly support the actors in the industry and make the value chain more effective.*

**Keywords:** Mapping, Value Chain, Margin, Coir pith, Coir Board

### **1. Introduction**

Indian coir industry is an important cottage industry contributing significantly to the economy of the major coconut growing states and Union Territories of India. The coir industry employs more than 0.7 million people of whom a majority is from rural areas belonging to the economically weaker sections of society. It is concentrated in Pollachi of Tamil Nadu State and the coastal region of Kerala State.

India is the largest coir producer in the world accounting for more than 80 per cent of the total world production of coir fibre. By weight, coir fibre account for about one-third of the coconut pulp and the other two-thirds is the coir pith. Coir pith is an excellent soil conditioner and is being extensively used as a soil-less medium for agri-horticultural purposes. Usually shipped in the form of compressed bales, briquettes, slabs or discs, the end user usually expands and aerates the compressed coir pith by the addition of water. Each block of 4 to 5 kg has storage capacity of 25 to 40 litres of water.

### **2. Statement of the Problem**

The major problem faced by coconut producers is the lack of sufficient rainfall which has caused the drying up of coconut trees that leads to a further reduction in the production of nuts. The fluctuating price of coconut in various markets also indicates a disadvantage to the coconut farmers. Migration of labourer to other areas such as construction industry has weakened the position of the coir sector. Low wages and poor socio economic conditions of coir workers adds to the problems faced by the coir industry.

There is a heavy dearth of fibre for production in the industry at present. Large scale procurement of husks is the major problem in the country. Even forty percent of the available husk is not utilised. The **Coir Board**, the point of entry of the study, is a statutory body established by the Government of India for the promotion and development of the coir industry in India. Only 20% of the total husk

produced reaches the production centres. The problem also lies in selling the finished products. The new generation is unaware of coir and coir products. The product that is taken for study, coir pith has got huge demand in the overseas market. The domestic market is not made fully aware of the use of coir pith as a substitute of soil for agricultural purpose.

Therefore the present study was intended to analyze the role of Coir Board in the value chain of coir pith blocks. A detailed analysis of value chain will identify the strategies to be adopted to improve the value to the customers and in return to the producer and also it helps to understand how various actors in the chains are integrated and linked.

**3. Methodology of the Study**

The study was conducted based on primary and secondary data. The primary data were collected from the various actors involved in the value chain of coir pith spread over Kerala and Pollachi in Tamil Nadu. Secondary data were collected from publications, research reports, annual report and articles published by Coir Board. Samples were taken based on convenience sampling method. Sample includes 3 Farmers (Pollachi), a Procuring agent (Pollachi), 2 Processing units (Pollachi), an Aggregator (Pollachi /Ernakulam), a Dealer (Thrissur), a Coir Board Showroom (Thrissur), 40 Consumers (Thrissur), Coir Board(Kochi) and Central Coir Research Institute(CCRI- Alappuzha). The primary data for the study was collected during the months of May, June 2014. Tools like value chain maps, percentage analysis were used for statistical analysis.

**4. Value Chain Mapping**

The present study was undertaken to understand the value chain management of coir pith under the Coir Board. Here, the mapping of value chain has done through the following steps.

*4.1. Mapping the core processes in the value chain*

Fig. 1 shows the core processes of the value chain of coir pith, which is input provision, production, and procurement, processing and marketing. Input provision include the source of seeds, fertilizers, pesticides, labour, machinery, irrigation and finance which are required for the cultivation of coconut. The cultivation of coconut and procuring the coconut husk from the farmers is also a core process in the value chain. The coconut husk procured has to undergo various processing so that coir pith suitable for making blocks can be obtained. Finally these blocks are marketed to the consumers.



Figure 1: Core processes in the value chain

*4.2. Mapping specific activities undertaken by the actors*

Fig. 2 shows the specific activities undertaken by actors in the value chain. The coconut cultivation starts with planting seedlings, application of fertilizers, use of labour, irrigation and finance for mechanization. While cultivation, land has to be prepared, seedlings are planted; weeding, manuring, irrigation and pest control is done. The procurement agents procure the coconut from farm, de-husk and transport it to the nearest market and processing units. The fibre is separated from the husk leaving the pith as the by product which is then cleaned and dried for converting it into coir pith blocks. The blocks are packed, labelled and branded and finally transported to the consumers who then utilize it.

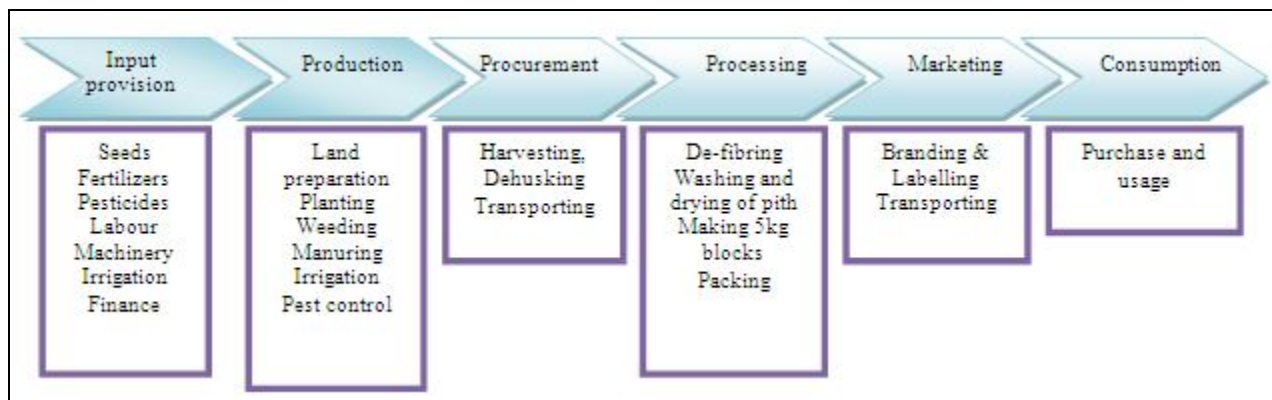


Figure 2: Specific activities undertaken by actors from core processes

4.3. Identifying and mapping the main factors involved in the processes

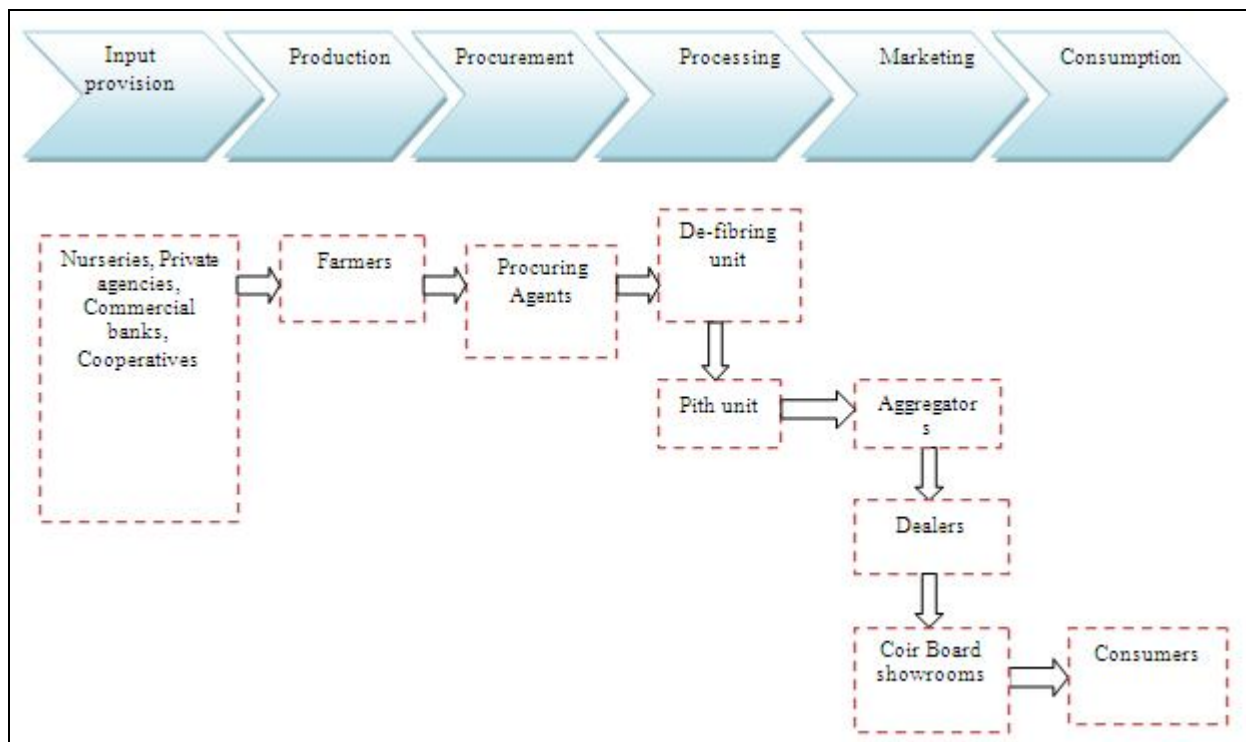


Figure 3: Actors involved in the core processes in the chain

Fig. 3 shows the actors involved in the core processes in the chain. Inputs such as seedlings are provided by the nurseries, fertilizers from cooperatives, finance from commercial banks, and other equipments from private agencies. Farmers undertake production and the procuring agents will collect the coconut from farmers. The processing is done in two stages- defibring and pith processing, which are two separate units in this study. The product is the marketed to the aggregator who supply it to the Coir Board Showrooms through dealers. Finally consumers purchase their products from the showrooms.

4.4. Mapping the flow of products

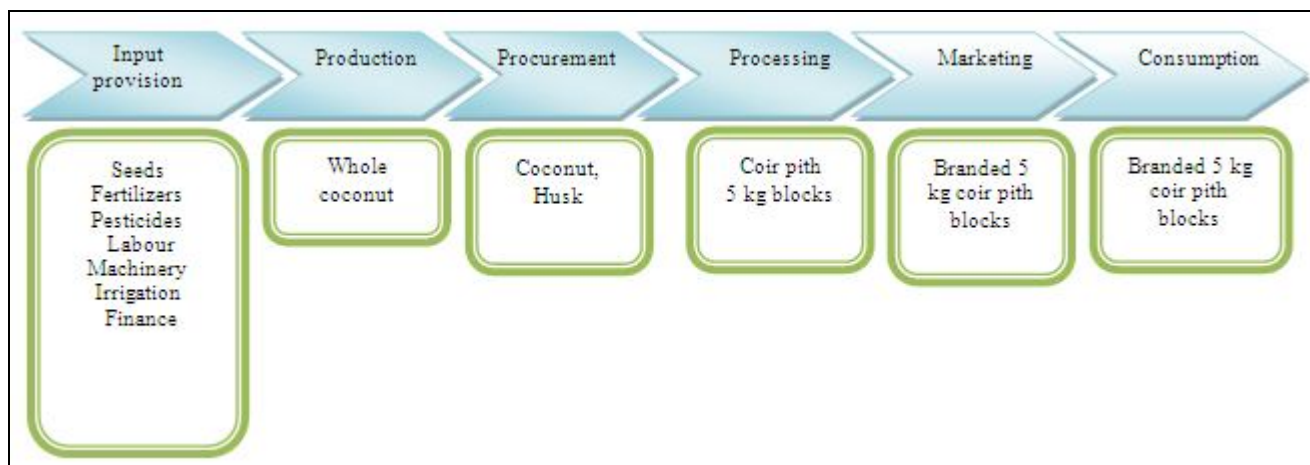


Figure 4: Flow of products in the chain

Fig. 4 shows the flow of products in the chain. The process of value chain involves flow of products from inputs to 5kg coir pith blocks. The farmers get the inputs from the specified agencies and they produce coconuts. The whole coconut is then procured by the agents who will separate the husk and the nut. The husk then goes to the fibre units and comes out as coir pith. This coir pith is supplied to the pith unit where it is converted into blocks of 5kg. The blocks are then branded by the aggregator and marketed to the consumers.

4.5. Mapping knowledge and flow of information

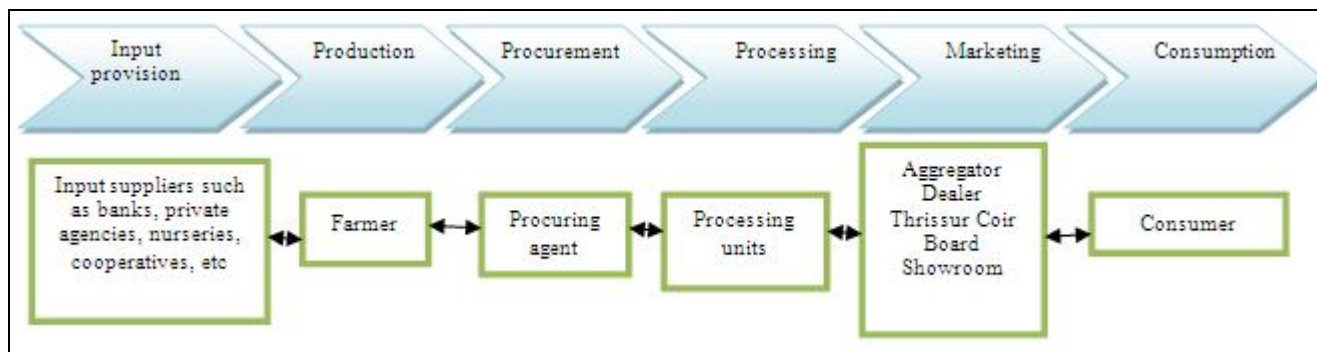


Figure 5: Knowledge and flow of information in the chain

Fig. 5 depicts the knowledge and flow of information in the chain. In this chain, mutual flow of information takes place between all the actors in the chain. Farmers are informed about the availability of fertilizers through cooperatives and finance through the commercial banks, seedlings through nurseries, etc. The details regarding the market price for the produce and the productivity are shared by the agent and farmers. Processing units have close contact with the agents and aggregator. The Coir Board Showrooms share information regarding the demand for the products and the feedback given by consumers with the dealers which are forwarded to the aggregators.

Regarding the flow of knowledge, the actors in the chain are unaware of the schemes and activities undertaken by the Coir Board to develop the coir industry.

4.6. Mapping the geographical flow of the product or service

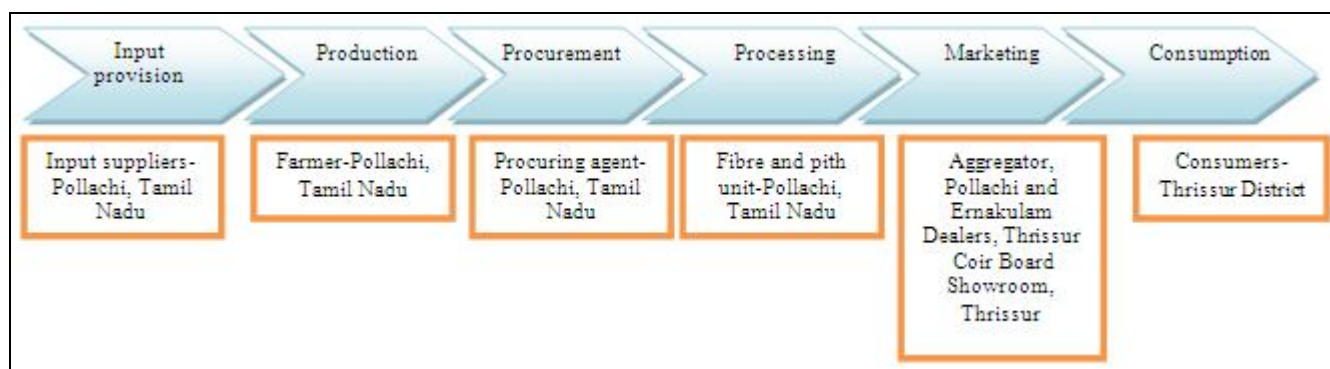


Figure 6: Geographical flow of products in the value chain

Fig. 6 shows the geographical flow of products in the value chain. Majority of the actors in the chain are located at Pollachi, Tamil Nadu. The input suppliers, farmers, agents, processing units and aggregators are located at Pollachi. The aggregators supply the product from Pollachi to their head office at Ernakulam. From there, the dealers from Thrissur collect the product and supply it to the Thrissur Coir Board showrooms.

4.7. Mapping the value at different levels of the value chain

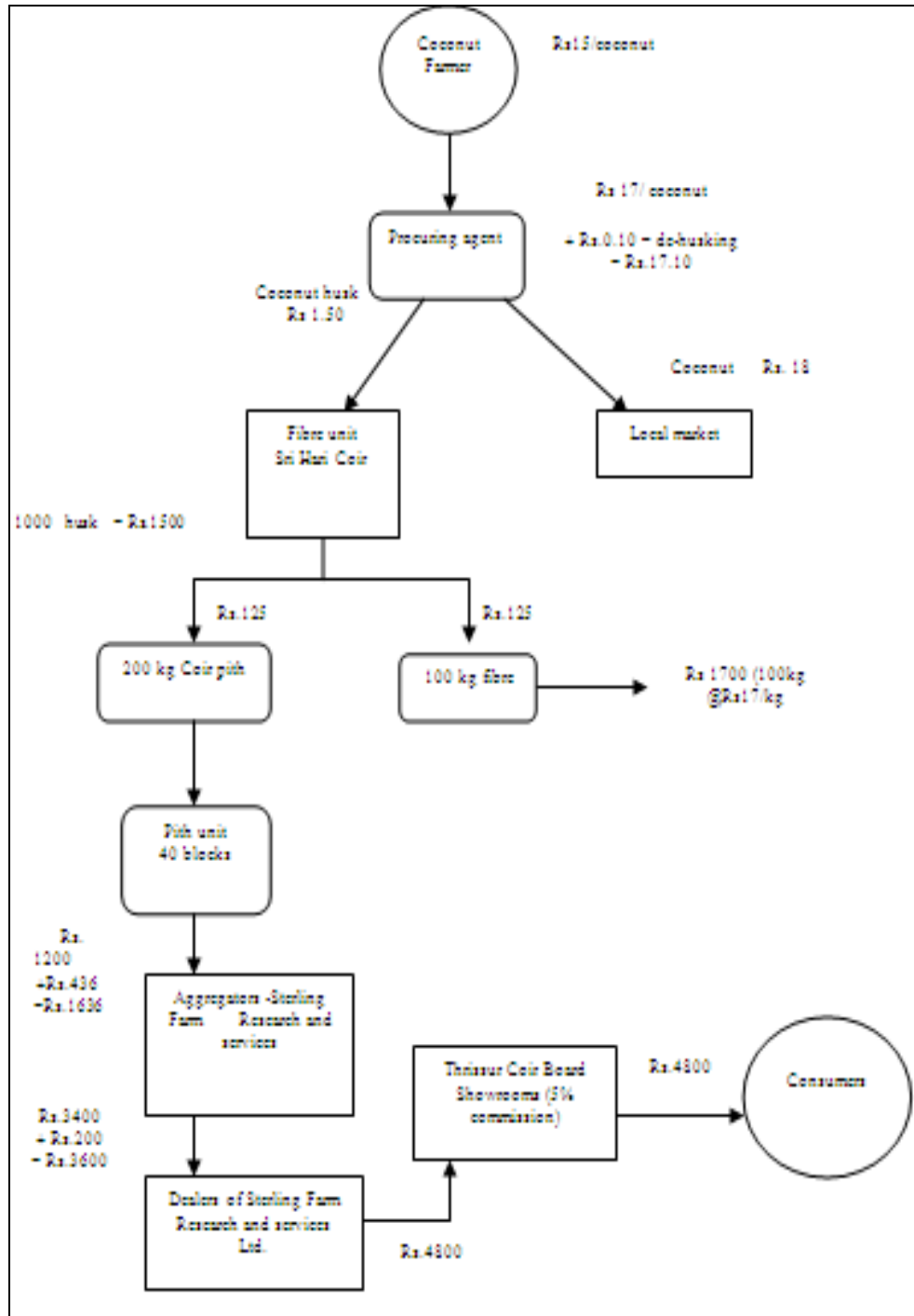


Figure 7: Value created at each level of the chain

Fig. 7 depicts the value created at each level of the chain. The farmer incurs Rs.15 for producing a coconut and gets Rs.17 from the agent for a whole coconut with husk. So he earns a profit of Rs.2 per coconut.

The procuring agent incurs Rs.0.10 for de-husking the coconut and incurs a total cost of Rs.17.10 for each coconut. He then sells the coconut husk to the processing unit at Rs.1.50 per husk and the coconut in the local market at Rs.18. He gets a total return of Rs.19.50 and earns Rs.2.40 as profit.

For purchasing 1000 husk, the processing unit has to spend Rs.1500. From 1000 husk, 200kg of coir pith and 100kg of fibre can be produced. The 200kg coir pith is sold to the pith unit at Rs.533. The pith unit has to incur Rs.432 as cleaning and labour charges. So the pith unit incurs Rs.965 for producing 40 blocks of 5kg each. These blocks are sold to the aggregators at Rs.1200 (Rs.30 per block).

The aggregator has to incur Rs.436 for transportation, loading and unloading and other expenses. So the total cost incurred for making the product ready for sale is Rs.1636. the product is then sold to the dealers at Rs.3400(Rs.85 per block), earning a profit of Rs.1764. The dealers incur Rs.200 for supplying the product to the Thrissur Coir Board Showrooms. The total cost incurred by the dealer is Rs.3600. the dealers finally market the product at Rs.4800 earning a margin of Rs.1200. Thus the aggregator and dealer absorb maximum amount paid by the consumers. In this chain, Coir Board Showrooms acts as an intermediary between dealer and consumer. They can't charge any amount as profit from the sale but are entitled to receive a commission of 5 % on the total sales. Thus, both the aggregators and dealers earn a higher margin in the chain.

4.8. Mapping relationships and linkages between value chain actors

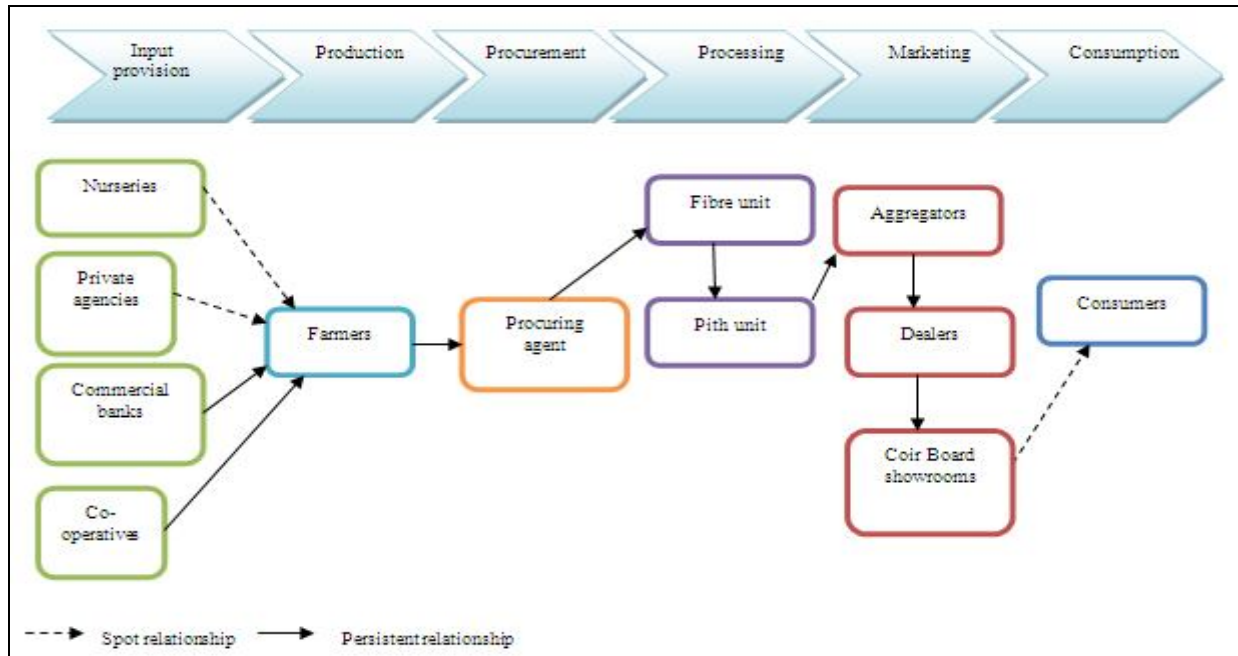


Figure 8: Relationships and linkages between value chain actors

Fig. 8 depicts the relationships and linkages between value chain actors. Spot market relations are the relations that are created on the spot. This happens mainly in the case of purchasing inputs like seedling and other implements from private nurseries and other agencies, where the transaction takes place only once. Even the transaction with the showroom and consumers is also limited as the product is not of daily use to the consumers.

The transactions with all the rest of the actors have a persistent network relation. Farmers have a continuous relationship with the bank from which they have taken loan and the cooperatives in which they are a member. Farmers sell their coconut every 45 days so they have close contact with the agents. The processing units have a much closer dealings with the agent and aggregators. Aggregators will keep in contact with the dealers and retail outlets i.e. the Coir Board showrooms.

4.9. Mapping constraints and potential solutions

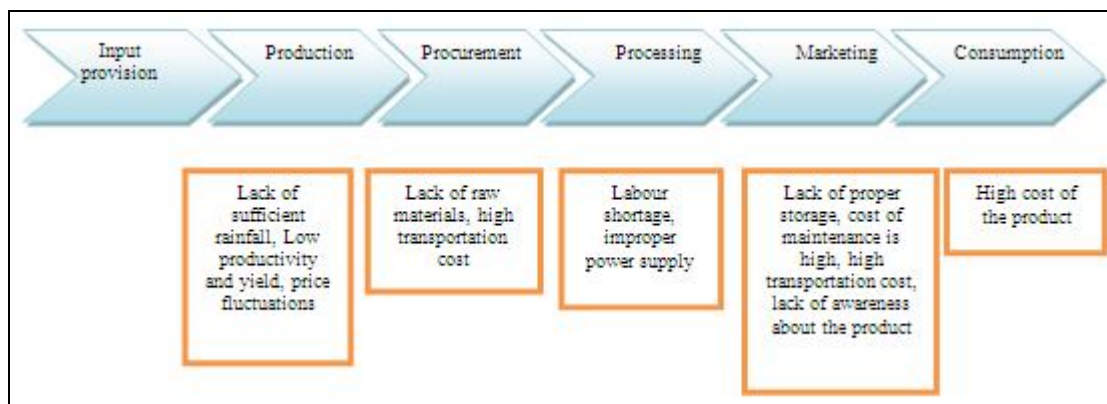


Figure 9: Constraints faced by the actors in the chain

Fig. 9 shows the constraints faced by the actors in the chain. The farmers haven't faced any problem in getting the inputs for coconut cultivation. Almost all the inputs are easily available. But during cultivation, they experience the shortage of rainfall which leads to low productivity and yield. Even at the time of high production, farmers find it difficult to realise the proper price for their produce and they are compelled to go for distress sale. The agents are now depending on other states like Karnataka to procure the coconut in order to continue the production in the units. Thus their transportation cost increases. Due to the large number of people employed under the MGNREGA programme, the labour required for the processing units are hard to find. The improper power supply also reduces the productive capacity of the unit.

The showrooms lack sufficient storage, so they are not able to stock the product. At times the product itself is not available in the showroom. The product available at Rs. 30 in Pollachi is available at Rs.120 in Thrissur. Even though the product has high demand in the foreign market, local people are not aware of the use of the product and are reluctant to buy the product at such a high price.

### 5. Policy Interventions

The following suggestions can be adopted to make the value chain of coir pith blocks more efficient and profitable to all actors in the chain:

- Government should ensure uninterrupted supply of power to the processing units.
- The information regarding the market price for coconut and husk should be informed to the farmers at timely intervals by the Agricultural officer and cooperatives in the area.
- The technology of producing coir pith blocks should be popularised in Kerala, where the coconut husk is not properly utilised and remain as a pollutant.
- The supervision of Coir Board should be extended to Tamil Nadu, the emerging market for coir products.
- Proper training and incentives should be given by the Coir Board to people involved in the coir industry to attract more labourers.
- The Coir Board should take steps to provide the showrooms with the required storage facility.
- Efforts should be made to create awareness about the use of coir pith blocks as a growing medium for vegetables, flowering plants, mushrooms, etc.
- Coir board should make sure that the products sold through their showrooms are not overpriced. They must serve for both the consumers and small scale units.
- An ethical business organization has to be set up to reduce the exploitative margin earned by the intermediaries.

### 6. Conclusion

Through this study, the core activities and actors involved in transforming the coconut from farmers to the coir pith blocks to the customers were identified. The value created at each level of this map was identified and the margin earned by each actor was analysed. The Coir Board should initiate more efforts to support the actors involved in the coir industry. Thus, the Coir Board has to take steps to monitor the role of each actor involved in the value chain of coir and coir pith products. Apart from registration of coir units, Coir Board has to ensure that the units are functioning properly and necessary assistance should be given to promote them. It should equally promote the people involved in the coir industry in the whole country. Some of the actors in the chain identified are not even aware of the existence of such an organisation in the coir sector. It should implement schemes which are beneficial for the actors, so that the India will be known as the leading country for coir products. Coconut producers companies has to be set up so as to reduce the exploitative role of aggregators and dealers in ensuring fair price to the consumers and sharing maximum to the farmers.

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