

# VALUE CHAIN ANALYSIS OF COWPEA IN NAGALASSERY GRAMA PANCHAYAT OF PALAKKAD DISTRICT

By

Lakshmi Priya P (2010-45-141)

## PROJECT REPORT

*Submitted in partial fulfillment of the*

*Requirement for the degree of*

*Bachelor of science (Hons.) in Co-operation & Banking*



COLLEGE OF COOPERATION BANKING AND MANAGEMENT

KERALA AGRICULTURAL UNIVERSITY

VELLANIKKARA, THRISSUR-680656

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2014

# *Declaration*

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## DECLARATION

I hereby declare that this report entitled “**VALUE CHAIN ANALYSIS OF COWPEA IN NAGALASSERY GRAMA PANCHAYAT OF PALAKKAD DISTRICT**” is a bonafide record of research work done by me during the course of *experiential learning* and that it has not previously formed the basis for award to me for any degree/diploma, associate ship, fellowship or other similar title of any other University or Society.

Vellanikkara

17/7/2014

Lakshmi Priya

(2010-45-141)


Lakshmi Priya

# *Certificates*

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## CERTIFICATE

Certified that this report entitled “VALUE CHAIN ANALYSIS OF COWPEA IN NAGALASSERY GRAMA PANCHAYAT OF PALAKKAD DISTRICT” is a record of work done by Ms. Lakshmi Priya (2010-45-141) under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her



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## CERTIFICATE

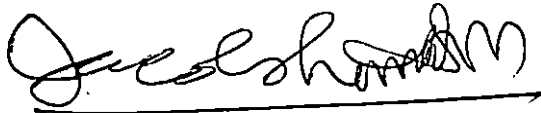
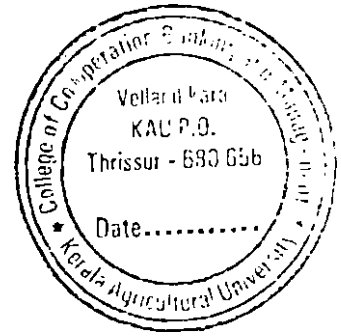
We, undersigned members of Viva-Voce Board of Ms. Lakshmi Priya P (2010-45-141), a candidate for the degree of B.Sc (Hons) Co-operation and Banking agree that the project entitled “**VALUE CHAIN ANALYSIS OF COWPEA IN NAGALASSERY GRAMA PANCHAYAT OF PALAKKAD DISTRICT**” may be submitted in partial fulfillment of the requirement for the degree.



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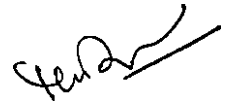


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# *Acknowledgement*

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# *Acknowledgement*

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*Lakshmi Priya P*

*(2010-45-141)*

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# CHAPTER 1

## DESIGN OF THE STUDY

### 1.1 Introduction

A value chain is the full range of activities required to bring a product from conception through the different phases of production, harvesting, processing ,marketing and consumption. A value chain is made up of a series of actors from input suppliers, producers, processors, exporters and buyers engaged in the activities required to bring agricultural product from its conception to its end use. The value chain concept has proven particularly useful for the identification and formulation of projects as well as in the development of strategies for improved agriculture and rural development.

Agricultural value chains can include three or more of the following : producers , processors , distributors, brokers , wholesale traders, retail traders and consumers. The partners within the value chain will work together to identify objectives and are willing to share risks and benefits and will invest time, energy and resources to make the relationship work.

An ideal value chain should bring all the stakeholders engaged in the production system on a common platform to contribute their best , while ensuring fair deal and transparency. The value chain will include all the input suppliers , technology delivering agencies , scientists indirectly engaged in developing appropriate technologies and extension officers who are involved in capacity building and providing various services to farmers. The stakeholders involved in post-production activities are the agencies organizing collection , grading , storage, transportation, processing and marketing of the produce. Agencies like financial institution and market information centers are also part of the value chain. Efficient linkage of various stakeholders improves production , price realization and profitability.

India with diverse soil and climate comprising several agro-ecological regions provides ample opportunity to grow a variety of horticulture crops. These crops form a significant part of total agricultural produce in the country comprising of fruits, vegetables, root and tuber crops, flowers, ornamental plants, medicinal and aromatic plants, spices, condiments, plantation crops and mushrooms.

In India, it is estimated that all the horticultural crops put together cover nearly 11-6 million hectares area with an annual production of 91 million tones. Though these crops occupy hardly 7% of the cropped area they contribute over 18% to the gross agricultural output in the country.

Horticultural crops play a unique role in India's economy by improving the income of the rural people. Cultivation of these crops is labour intensive and as such they generate lot of employment opportunities for the rural population. Fruits and vegetables are also rich source of vitamins, minerals, proteins and carbohydrates etc....which are essential in human nutrition. Hence, these are referred to as protective foods and assumed great importance as nutritional security of the people. Cowpea is one of the most economically and nutritionally important indigenous legume tropical and subtropical areas of the world.

Cowpea plays a key role in the food supply and agriculture of India. It is a nutritious component in the human diet. It is rich source of protein, carbohydrates, fibre etc. it is an important vegetable grown in Kerala mostly used for culinary purpose.

## **1.2 Statement of problem**

Value chain of a crop covers all the actors who participate in the supply of produce from the farmer to the end user. Every actor is having their own benefits and they are interrelated each other. Value chain of agricultural supply starts from input supply to the farmers to undertaking farming activities and ends when the consumer who consumes it. There are many factors in the value chain who directly linked with it including input suppliers, farmers, wholesale traders, retail traders, consumers...etc

Cowpea is one of the most important vegetable crops grown by farmers of this area mainly for marketing purpose. Cowpea is mainly used for raw consumption. Due to perishable nature of produce, it demands an efficient supply system which carries them from point of production to point of consumption. There are number of players between the farmer and the consumer and the presence of middleman decreases the profitability of farmer. Along with this problem the high cost of cultivation due to other factors like high cost of labour, inputs ...etc make the conditions of farmer more miserable. In this study we are attempting to make an in depth analysis of value chain of cowpea in Nagalassery grama panchayat of Palakkad district.

The study area Nagalassery panchayat of Palakkad district which is a potential cowpea growing area and in the production of vegetables cowpea occupy a major portion. Fifty hectares of area in nagalassery panchayat is having cowpea cultivation.

(Source: Records kept in Nagalassery Krishibhavan, Annual publication of farm information bureau.)

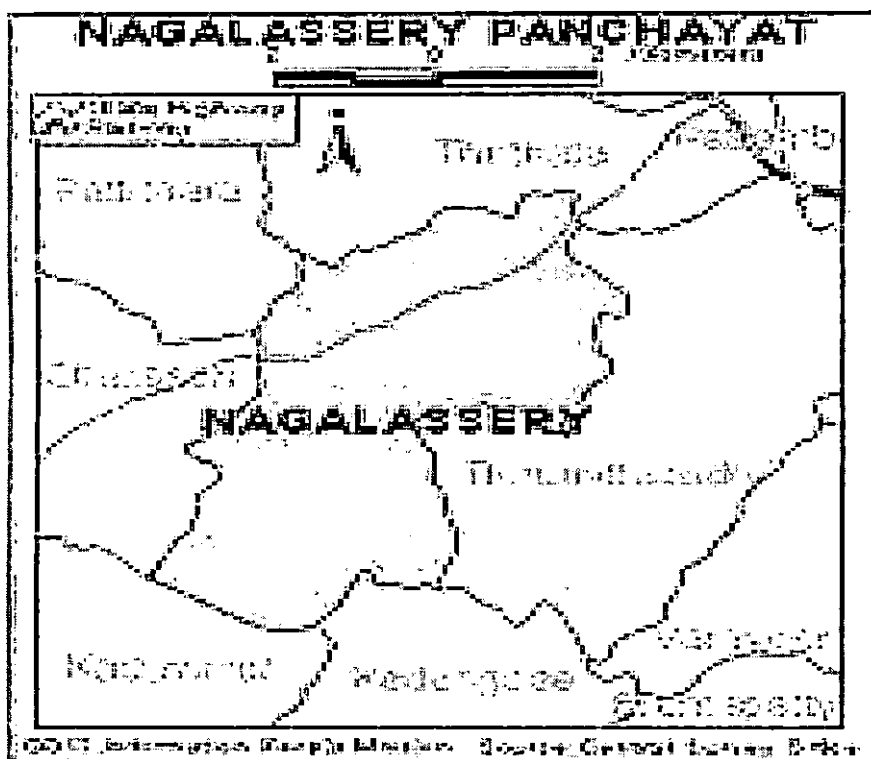
### 1.3 Objectives Of The Study

- To identify different actors and linkages in the cowpea value chain.
- To map the value chain of cowpea.

### 1.4 Methodology

#### a)Location of Study

Nagalassery grama panchayat of Palakkad district.



#### b)Period of Study

Months of May and June, 2014



### **c) Sampling Design**

The primary data for the study was collected from the identified actors of value chain including farmers, wholesale traders, retail traders and consumers of Nagalassry grama panchayat. Totally thirty farmers from the panchayat was purposively selected from among the cowpea cultivating farmers by simple random sampling method. Since this is a value chain analysis other categories of respondents also formed the sample of the survey. Sample from 3 wholesalers, 3 retailers and 4 consumers was also surveyed.

### **d) Data Collection**

Both primary and secondary data was used for this study. The primary data required for study was collected by administering a structured interview schedule and observation. Secondary data was used for writing profile of Nagalassery grama panchayat. The secondary data source mainly included records kept by Krishibhavan various websites, journal , publication ...etc

### **c) Data Analysis**

To interpret the collected data Descriptive statistics (frequencies , ranking ) , percentage analysis was used.

## **1.5 Observation made**

- Area, production and productivity
- Sources of inputs
- Problems faced by farmers during cultivation and marketing
- Cost of production
- Different players in the value chain and their benefits.
- Value addition at different stages
- Existing marketing channels
- Consumers

## **1.6 Scope of The Study**

The value chain analysis will cover local and distant market actors, wholesale traders, retail traders and final consumers of cowpea raw and will create good impact on building proper value chain in cowpea. This study also reveals the problems faced by different actors in cowpea value chain. Further the study will also explore the advantages to the farmers being the chain is organized.

## **1.7 Limitation of The Study**

An extensive and depth study was not possible because of the limited time duration. Memory lapse and bias on the part of respondents may have also clouded the findings of the study. And also the study cannot be generalized.

## **1.8 Review of Related Literature**

Jhon and Govindarajan (1993) described the value chain in broader terms than does porter. They say that “The value chain for any firm is the value-creating activities all the way from component suppliers through to the ultimate end use product delivered into the final consumer’s hand”. This description views the firm as part of an overall chain of value creating process.

David and Lancaster (1999) reported that “value” is explored and summarized in terms of its involvement in delivering the product/service attributes, considered necessary to create customer satisfaction.

Kaplinsky and Morris(2000) opined that, value chain analysis is particularly useful for new producers including poor producers and poor countries – who are trying to enter global markets in a manner which would provide for sustainable income growth. It is also useful as an analytical tool in understanding the policy environment which provides for the efficient allocation of resources within the domestic economy, notwithstanding its primary use thus far as an analytic tool for understanding the way in which firms and countries participate in the global economy.

Dagmar (2001) management Project GmbH (Gesellschaft mit beschränkter Haftung) described that value chain analysis include the activities within and around an organization, and relates them to an analysis of the competitive strength of the organization. Therefore, it evaluates which value each particular activity adds to the organizations products or services.

Barnes (2004) described value chain analysis as the activities within and around an organization, and release them to an analysis of the competitive strength of the organization. Therefore it evaluates which value each particular activity add a value to the organizations products or services.

Saji (2007) stressed the need for a proper value chain management system for addressing the issues in agriculture. The success of the value chain depends upon leveraging capabilities of various members within a framework of collaboration. The study inferred that the increased production is not benefiting the farmers as the supply chains are still fragmented and inefficient.

Subramanian (2007) described value chain analysis (VCA) as a method for accounting and presenting the value that is created in a product or service as it is transformed from raw inputs to a final product consumed by end users.

Anjani (2011) made a study on the value chains of agricultural commodities and their role in food security and poverty alleviation. The examined that at the global level, agricultural sector has been increasing vertical co-ordination and emergence of agriculture food supply chains to meet consumers demand for food quality and food safety. Value chain has a significant role on cost reduction as well as resulting in positive externalities. Small land holdings, inadequacies in availability of inputs poor extension and infrastructural support and insufficient marketing avenues are the primary reasons for low crop productivity in india. However, it is believed that changes in institutional arrangements along with availability of new technologies and modern information and communication modes play an important role in the economic growth of the country. They also play an important role in the development of agricultural sector and improvement in the income levels and livelihood situations of the farmers.

Anshul (2012) examined that the agricultural value chain in india is suffering from many bottle necks which leads to low income to farmers and high inflation and food prices. The study focus mainly on horticultural commodities like fruits and vegetable value chain. The various key strategies and recommendations to remove inefficiencies in agricultural value chain includes delisting from APMC act, strengthening central board, proper implementation of contract farming, encouraging farmers co-operatives and associations, freedom on interstate movement of agricultural commodities.

Srinivasan (2012) found that agricultural value chains are difficult to organize and stabilize in countries like India with a large number of small farm holdings. Building the confidence of farmers to move away from subsistence farming to market oriented farming and increasing their awareness on application of improved inputs and adoption of higher technologies of cultivation are important interventions in creating sustainable value chain.

## CHAPTER 2

# PROFILE OF NAGALASSERY GRAMA PANCHAYAT

### 2.1 Introduction & History

Nagalassery grama panchayat is one of the 9 panchayats of Palakkad district and is situated in Pattambi taluk. It is a major contributor in the agricultural sector. Nagalassery panchayat spreads over 26 sq.km. There are 17 wards and 6 villages in this panchayat.

Nagalassery grama panchayat is a major contributor of agricultural commodities and majority of the population depends on agriculture for their daily bread. There is one Krishibhavan in this panchayat which is situated in Nagalassery. The major crops here are Paddy, Coconut, Banana, Arccanut and vegetables. Public wells, private owned wells and some other small canals are the main source of irrigation.

Nagalassery grama panchayat is having all the necessary infrastructure facilities like electricity, road, railway, public distribution centers, education, banking, hospital, primary health center, animal dispensary center, post office, village office, krishibhavans etc. There are banking and non banking finance companies are working in this panchayat.

### Farmers

Farmers(also called as agriculturist) is a person engaged in agriculture, who raises living organisms for food or raw materials, generally including livestock husbandry and growing crops. The total number of farmers in this panchayat comes around 1000 from that almost 300 farmers are mainly cowpea farmers. Total area under cultivation for vegetable is 150 hectares. And about 50 hectares is for cowpea cultivation (Source: Records kept by Krishibhavan). Type of farmers in this area comprises of small, medium & large farmers. Farmers are keeping good relation with the organizations to update their knowledge in the farming field. Farmers are getting the necessary farming inputs through the krishibhavans and panchayats.

Most of the farmers in this panchayat are small and marginal farmers and almost all of them are experienced in farming activities. They are hereditary farmers, having agriculture as their main occupation.

## 2.2 Major Crops

Major crops growing in this area are Paddy, Coconut, Banana, Arecanut & Vegetables etc...are also grown on small scale.

**Table 2.1 Major crops and area under cultivation in Nagalassery panchayat**

<b>Major crops</b>	<b>Area(hectares)</b>
Paddy	4 ton/ha
Coconut	15000 plants/ha
Banana	3 ton/ha
Arecanut	14 ton/ha
Vegetables	10 ton/ha

Source : records kept by Nagalassery Krishibhavan

## 2.3 Krishibhavans

Nagalassery Krishibhavan comes under this panchayat having area of operation of 30 .ha. The major crops cultivated in this area are Paddy, Arecanut, Banana & vegetables etc...Most of the farmers are either small or marginal

# CHAPTER 3

## Value chain – A Theoretical Perspective

### 3.1 Value chain analysis

The value chain concept was introduced 25 years ago by Michael Porter in his 1985 best-seller, *Competitive Advantage : Creating and Sustaining Superior Performance*. A value chain is composed of activities and services that bring a product from conception to end use in a particular industry. It is a sequence of production, processing and marketing activity, Product gains value. In a well managed value chain, the value of the end product is often greater than the sum of value added

### The general Value Chain Concept

The concept of the value chain means that we link all the steps in production, processing, and distribution together, and that we analyze each step in relation to the preceding steps that follow.

The value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (*involving a combination of physical transformation and the input of various producer services*), delivery to final consumers, and final disposal after use.

### 3.2 Value chain concept applied for Agricultural Crops

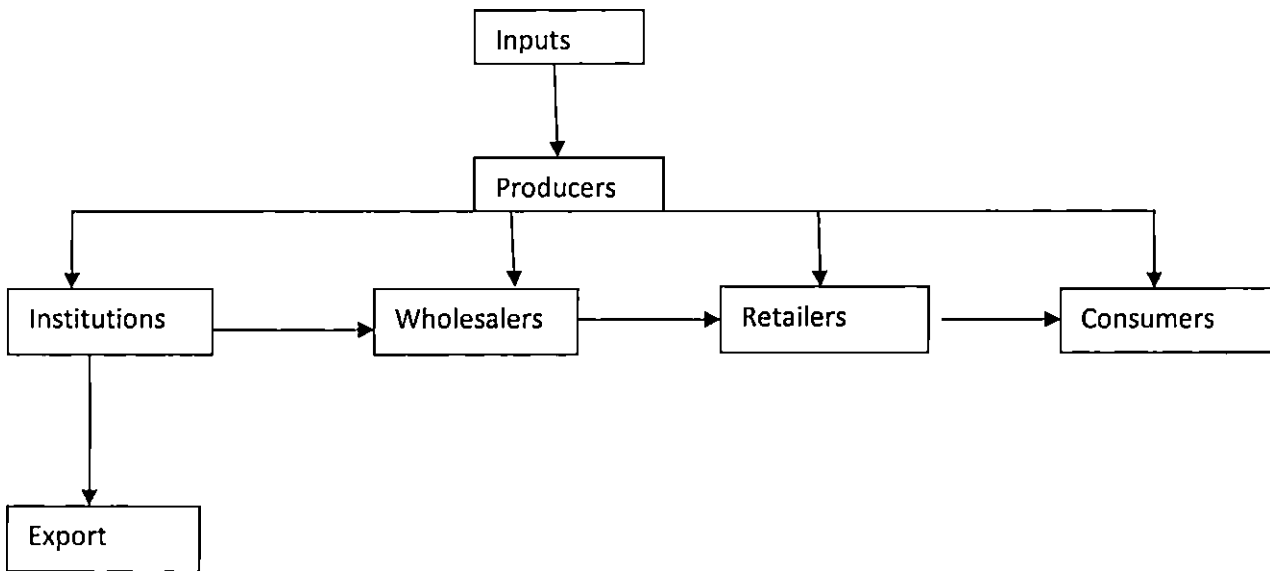
Value chain for agriculture has become a topic of interest for development agencies, and is an approach that is being increasingly applied by those involved in value chains. Value chain can contribute to meeting the growing need for agricultural and investment in response to greater consumer demands for fresh or value added products. From a development perspective, governments and support agencies must ensure that the supply system in their countries are able meet these demands arising from the growth of modern agro-food value chains.

Value chain – the set of actors (private, public and including service providers) and the sequence of value – adding activities involved in bringing a product from production to the final consumer. In agriculture they can be thought of as a “farm to fork” set of inputs, processes and flows.

Value chain analysis – assessment of the actors and factors influencing the performance of an industry, and relationship among participants to identify the main constraints to increased efficiency, productivity and competitiveness of an industry and how this constraints can be overcome.

The value chain of vegetables begins with inputs like seeds, fertilizer and moves to the production. The farmer may sell it directly to consumers or institution that will, in turn, process it for consumption or for further value addition in creating other products. Alternatively, wholesale traders will purchase it and take it for urban or regional consumer markets. This commodity production, marketing and consumption chain is called a value chain because value is being added to the commodity at each step.

### 3.3 The Value Chain of Vegetables.



Value chain analysis describes the activities that take place in a business and relates them to an analysis of the competitive strength of the business. Influential work by Michael Porter Suggested that the activities of a business could be grouped under two headings:

- (1) **Primary Activities** - those that are directly concerned with creating and delivering a product (e.g. component assembly) ; and
- (2) **Support Activities** – which whilst they are not directly involved in production may increase effectiveness or efficiency (eg. Human resource management). It is rare for a business to undertake all primary and support activities.

## **Business Models**

A value chain is not an entire sector or subsector. It involves a specific group of inter – related producers and other actors who supply a particular end market. The relationship between buyers and sellers can be described through various types of linkages along a continuum : The strategy for development or strengthening of value chains depends upon the business model. The term business model in value chain refers to the way it adds value within a market network of producers , suppliers and consumers. The business model encompasses the drivers, processes and resources for the entire value chain system, even if the system is comprised of multiple enterprises. The business model concept is linked to business strategy (the process of business model design.) and business operations. If value chain finance is to be successful, the value chain must be viewed as a single structure, with the model of this structure providing a framework for further analysis.

The relationship between buyers and sellers can be described through various types of linkages along a continuum: (i) the instant or spot market where producers come to sell their commodities, and prices fluctuate ; this is the most risky in terms of setting market price; (ii) a contract to produce and buy, known more generally as contract farming ; (iii) a long term often informal relationship characterized by trust or interdependency; (iv) a capital investment by one of the buyers for the benefit of the producer, characterized by high levels of producer credibility and dependence; and (v) a company that has achieved full vertical integration. Hence, moving from an uncontrolled buyer-seller relationship model towards a more integrated one, improves the prospects for financing both within and into the chain. Because small holder production is important for both economic and social considerations, special emphasis must be given to models which allow them to fully participate in value chains.

The following is a classification adapted from Vorley (2008), which illustrates the typical organization of smallholder production and marketing – that is, the relation of farmers to the market and/or the larger system. This analysis offers a basis for value chain business models, and the accompanying finance, which is expanded upon in the following sections.

### Typical organizational models of smallholder production

#### Model Driver of Organization Rationale

##### Producer-driven

##### Participants

- Small-scale producers, especially when formed into groups such as associations or cooperatives



- Large scale farmers

#### Features

- Access new markets
- Obtain higher market price
- Stabilize and secure market position

### Buyer-driven

#### Participants

- Processors
- Exporters
- Retail traders
- Traders, wholesale traders and other traditional market actors

#### Features

- Assure supply
- Increase supply volumes
- Supply more discerning customers – meeting market and interests

### Facilitator-driven

#### Participants

- NGOs other support agencies
- National and local governments

#### Features

- ‘Make markets work for the poor’
- Regional and local development

#### Integrated

- Lead firms
- New and higher value markets

A value chain is not an entire sector or subsector. It involves a specific group of interrelated producers and other actors who supply a particular end market.

- Supermarkets
- Multi-nationals

#### Features

- Low prices for good quality
- Market monopolies

Producer-driven business models are driven from the bottom end of the chain. They can be successful but face two major difficulties. First, producers may not understand the market needs as well as those in the chain who are closer to the consumer. Secondly, producers often struggle for financing unless they can find strong partners and /or can get assistance for financing . Buyer-driven models form the foundation for many of the applications of value chain financing. It is often in the buyer's interest to procure a flow of products and use finance as a way of facilitating and/or committing producers, processors and others in the chain to sell to them under specified conditions . Most often, when financing is involved, the conditions are binding through contracts and therefore contract farming is the most common buyer-driven value chain model Facilitator-driven models exist in many countries where there is almost a dual agricultural system in which a developed agro-industry coexists alongside marginalized producers who are living at subsistence levels. The costs of organizing and training small producers can be deemed too high to be taken on by a large company. As a result, intermediation by development organizations, both non-government organizations (NGOs) and government agencies facilitates opportunities for smallholder of such facilitation. With a goal of long term sustainability , facilitation is ideally time bound incorporating a clear exit strategy. Successful facilitation approaches to value chain development have been proven around the world. With proper organization and training, incomes can be improved. Finally, an integrated value chain model, not only connects producers to others in the chain- input suppliers, intermediaries, processors, retail traders and service providers including finance- but it integrates many of the features of the other models presented such as strong linkages with multi-party arrangements, technical guidance and strict compliance, and also incorporates an amalgamated structure of value chain flows and services.

Value chain analysis is one way of identifying which activities are best undertaken by a business and which are best provided by others(“out sourced”). The study of value chain comprises of two key concepts: value and chain. The term value is synonym to “value added” in the value chain analysis (VCA) as it characterizes the incremental value of a resultant product produced from a product. For agricultural products, value addition can also take place through differentiation of a product based on food safety and food functionality. Price of the resultant product shows its incremental value . The term chain refers to a supply chain indicating the process and the actors involved in the life cycle (from conception to disposal) of a product. Hence, Kaplinsky and Morris

(2001) defines VCA as study of the “full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use”. In addition to the movement of a product from one stage to another and identification of the actors, firms and their services, also adds analysis of the institutional support to production at various stages to VCA. Hence, VCA stands on the pillars of production, processing and marketing of food products. In India, the agriculture sector accounts for 14% of the GDP and provides livelihood to 58.4 % of the country’s population ( Govt of India, 2011). Hence, the production stage encompasses not only the physical, human, financial and other economic resources involved in the production of the agricultural product in various agro-ecological zones, but also involves livelihood strategies of the households engaged in production.

### **3.4 Value Chain of Vegetables in India**

According to the reports, the existing vegetables marketing system in india consists of assembly markets, wholesale markets and terminal markets. Assembly markets, usually small in size, are situated close to the farm gate, where farmers sell marketable surplus of vegetables. Traders shopkeepers and retail traders buy from these markets. Price is directly negotiated between buyer and seller. Producers prefer to sell larger quantities in wholesale markets located in a district town or a major sub-division. Some of these markets have storage, transportation and communication facilities. Permanent offices and auction floors have been constructed in these markets. Almost every trader(commission agent) has sufficient space in the market to store produce for a few days(free of cost) or for longer periods for a nominal charge. Commission agent also provides lodging and boarding facilities to the contractors or producers, who bring their produce from long distance. Participants in these markets include commission agents, wholesale traders, retail traders, shopkeepers and weighing men. Terminal markets are generally situated in large urban centres. These markets process the large marketable surplus and route vegetables for export to various international markets. Traders in terminal markets are usually wholesale traders who supply agricultural products to firms and industries for processing and to the retail traders and shopkeepers. Traders in these markets have access to modern facilities for approaching their agents in other national and international markets.

Understanding value chains is important for making food products and the food industry more competitive and improves their ability to compete in the global economy. Research on value chains also helps in understanding how local competitive firms are positioned in the global value chains to perform more lucrative activities since production activities takes place in different parts of the world. As a result, food value chains generate sustainable jobs and income for rural population and entrepreneurs. It also guides the policy aims to influence decisions of entrepreneurs towards better performance. Further VCA helps policy makers to study different factors that determine competitiveness of a firm eg. Quality, price, flexibility, design etc. helping the entrepreneurs to identify their strength and weakness.

# **CHAPTER 4**

## **ANALYSIS**

Value chain analysis of Cowpea in Nagalassery grama panchayat of Palakkad district is an attempt to study the various players involved in the value chain of cowpea, their functions and roles. For this purpose a study was conducted based on primary data collected from 30 randomly selected cowpea cultivators of Nagalassery panchayat. The result of the study is presented and discussed in two parts of this chapter.

### **PART I**

#### **Cowpea value chain- Analysis of various players.**

##### **1. Farmers**

Farmers are the main actors of the value chain of the cowpea.

##### **Socio-economic profile**

The demographic characteristics of the respondents such as age, gender , educational qualification, occupation, annual income and area of land owned were studied with the help of pre-tested structured interview schedule. These factors show the living conditions and standard of living of the farmers.

**Table 4.1 Socio-economic profile of farmers**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Age(years)</b>		
Below 35	5	16
Between 35-45	8	27
Between 45-55	8	27
Above 55 years	9	30
<b>Gender</b>		
Male	20	67
Female	10	33
<b>Educational status</b>		
Below SSLC	10	33
SSLC	17	57
Pre-degree	3	10
<b>Primary occupation</b>		
Agriculture	28	93
Private	2	7
<b>Annual income(Rs/-)</b>		
Below 1 lakh	19	63
Between 1-2 lakh	11	37
<b>Land holdings</b>		
Below 1 acre	10	33
1-2 acres	11	37
2-3 acres	5	18
3-4 acres	2	6
4-5 acres	Nil	Nil
5 acres and above	2	6

Source: Compiled from survey

From the table 4.1 we can see that only 16% of the farmers are under the age of 35 and 27 % of farmers lies in the age category of both 35-45 and 45-55. Majority of the farmers (30%) are above the age of 55. It gives a clear indication that the young generation is not interested in taking agriculture as a profession. And among the 30 farmers surveyed 20 are male and 10 are female. This indicates that men are more engaged in agriculture than female. However, females are supporting them in farming activities besides their work of home making. Education is necessary for the development of a person and it is an important instrument of social output. The educational status of the farmer will have profound influence in the financial management of farm and home. By examining the table we see that 33% of the farmers are having education below SSLC and more than half of the farmers(57%) are having SSLC, AND 10% is have qualified pre-degree qualification. This reveals that educationally qualified people are also coming in agriculture. 63% of the respondents are having annual income less than 1 lakh and the rest 37% is having annual income between 2 lakhs and 3 lakhs. 33% of the

farmers are having owned land and below 1 acre, 37% are having area 1-2 acres, 18% are having 2-3 acres, 6 percent are having 3-4 acres and 6 percent are having owned land above 5 acres.

## Cowpea Cultivation

The details about cowpea cultivation were collected in order to assess the interest and experience of farmers in this area. For assessing these factors, area under cowpea cultivation and years of experience in cowpea cultivation are collected, during the survey.

**Table 4.2 Cowpea Cultivation**

<b>Area</b>	<b>No. of respondents</b>	<b>Percentage</b>
Below 0.5 acre	15	50
0.5-2 acre	12	40
2-5 acre	3	10
<b>Year of experience</b>		
Less than 5 years	2	7
5-10 years	8	27
10-15 years	11	36
More than 15 years	9	30

Source : Compiled from survey

Table 4.2 shows that half of the respondents are cultivating cowpea in less than 0.5 acres of their land, 40 percent of farmers are cultivating cowpea in land between 0.5 to 1.5 acres. 10 percent of farmers are having 2 to 5 acres of land under cowpea cultivation. Regarding the experience of these farmers in cowpea cultivation, 11 of the farmers are having an experience of 10-15 years, nine are engaged in cultivation for more than 15 years, and 8 are doing cowpea cultivation for 5-10 years. Only 2 of the farmers are having an experience of less than 5 years. Experience in farming shows the interest and knowledge in the field. This shows that almost all the farmers are well experienced and interested in cowpea cultivation. It indicates that, either the cowpea cultivation may be profitable or it may be of low cost.

### 3. Type of input supplied to farmers

Inputs are the first necessity in the cultivation of any crop. Below table shows the details of inputs like seeds, fertilizers, pesticides, training, technological help, credit, irrigation etc. their types, sources, etc. required for cowpea cultivation.

**Table 4.3 Input Supply To Farmers**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Seeds Source</b>		
Krishibhavan	30	100
<b>Fertiliser type</b>		
Both bio and chemical	30	100
<b>Pesticide source</b>		
Krishibhavan	30	100
<b>Credit</b>		
Loan availed farmers	19	63
Unavailed farmers	11	37
<b>Credit source</b>		
Co-operative banks	6	32
Commercial banks	13	68
<b>Irrigation</b>		
Source		
Well	30	100
<b>Subsidy</b>		
Availed farmers	30	100
<b>Subsidy type</b>		
Both seed and fertilizer	30	100
<b>Training program method</b>		
Farmers attended	30	100
Farmers not attended	Nil	Nil
<b>Institution providing training</b>		
Both panchayat & Krishibhavan	30	100
<b>Institution providing technical support</b>		
Krishibhavan	30	100

Source: Compiled from survey

From the table 4.3 we can see the details about the inputs required for cowpea cultivation. Seeds, fertilizers, pesticides, finance, irrigation etc.. are the main inputs required. All the respondents of this survey is availed seeds from Krishibhavan. All of the farmers use both chemical fertilizers and bio fertilizers and pesticides for their cultivation and depends Krishibhavan for its availability. Regarding the credit, 63% of the farmers have taken loans for meeting the financial needs and 37% of the farmers used their owned fund for cultivation. Among the 19 loaned farmers , 13 have taken loan from Commercial bank and 6 have taken loan from Co-operative banks. All the farmers have attended training programmes and they are of the opinion that the training program has increases their efficiency and knowledge about the cowpea and its cultural practices. All of the farmers depend on wells for irrigation purpose. Regarding subsidy, all the farmers are getting subsidies from Krishibhavan for both seeds and fertilizers. Krishibhavan is the main institution providing training to the farmers of this area. Thus we can conclude that Krishibhavans farming activities in Nagalassery



panchayat by providing various inputs and conducting training programs. Seeds and fertilizers are available at subsidized rates which reduces the cost of cultivation.

### **Problems faced by farmers during cultivation**

Every farmer is facing one or another problem during the period of cultivation. The problem which is severe to one person may not be the same for others. Hence we rank the problems to draw a conclusion and the details are shown below.

**Table 4.4 Problems faced by farmers during cultivation**

<b>Problem</b>	<b>Rank</b>
High labour charge	1
Scarcity of labour	2
Climatic Problems	3
Unavailability of inputs	4
Increasing price of inputs	5
Pest and disease attack	6
Decreasing demand	7

Source : Compiled from survey

Table 4.4 shows the main problems faced by the farmers during the cultivation of cowpea. High labour charge is the first most problem and it is followed by the unavailability of labourers. People are more attracted to MNREG Scheme which provides 100 days of continuous work, which, in turn, reduces people's interest in agricultural field. This caused a decline in the number of people willing to work in agricultural field and this led to an increase in wages. These are the main two problems faced by the farmers of Nagalassery. Climatic problems (Scarcity of water, heavy rain etc...), unavailability of inputs, increasing price of inputs, pest and disease attack are the following problems faced by the farmers during cultivation.

### **Harvesting, Storage and marketing**

The main problem with agricultural products is its perishability. So much care should be given at the time of harvest, marketing and handling it. The success of a crop to a great extent depends on marketing. Proper storage facilities will increase the shelf life of cowpea.

**Table 4.5 Details of harvesting, storage and marketing**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Harvesting technique</b>		
Manual	30	100
<b>Warehouse</b>		
Not use	30	100
<b>Value addition</b>		
Cleaning		
Sorting		
Grading		
All of these	30	100
<b>Type of produce marketed</b>		
Fresh produce	30	100
Value added produce	Nil	Nil
<b>Source of information</b>		
Traders	30	100

Source: Compiled from survey

Table 4.5 shows the details regarding the harvesting; all the farmers are manually collecting the beans. They are not using any warehousing and storage facilities. This indicates that their produce is sold immediately. They are marketing as fresh produce after cleaning, sorting and grading. Traders are the main source of information.

### ***Problems faced by farmers during marketing***

Proper marketing ensures fair price to the farmers. But there too remain many problems which creates difficulties in the marketing of produce. Here shows the main problem related in marketing.

**Table 4.6 Problems faced by farmers during marketing**

<b>Problems</b>	<b>Rank</b>
Lack of stability in demand	1
High price fluctuations	2
Loss during transportation	3
Lack of fair traders	4
Lack of fair price	5
Existence of middlemen	6

Source: Compiled from survey

Table 4.6 shows various problems related to marketing of cowpea produced by the farmers. According to the ranking, lack in stability in demand is the main problem faced by farmers during the marketing of their produce. Demand for cowpea fluctuate because of high supply( may be due to the import from other states.) and it cause problems in marketing. High price fluctuations stand in the second position because there occurs a heavy flow of vegetables to Kerala which reduces the price of domestic product. Loss during transportation , Lack of fair traders and lack of fair price are the other problems following them. Existence of middlemen is the lastly ranked problem.

## **2. Wholesale traders**

Wholesale traders collect produce from farmers and sells to retail traders. They sell cowpea to various parts of kerala. For the purpose getting details of cowpea wholesale traders, 5 of them were surveyed with pre- tested structured interview schedule.

**Table No. 4.7 Socio economic profile of the wholesale traders.**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Age:</b>		
35-45 Years	1	20
45-55 Years	2	40
55-65 Years	2	40
<b>Total</b>	<b>5</b>	<b>100</b>
<b>Gender:</b>		
Male	5	100
Female	-	0
<b>Total</b>	<b>5</b>	<b>100</b>
<b>Educational Qualification:</b>		
Below SSLC		
SSLC	2	40
	3	60
<b>Total</b>	<b>5</b>	<b>100</b>
<b>Primary occupation:</b>		
Business	5	100
<b>Total</b>	<b>5</b>	<b>100</b>

Source: Compiled from survey

The table 4.7 reveals the socio-economic profile the 5 respondent dealers in the study area. Out of the total 5 respondent wholesale traders, 20 percentage were coming under 35-45bage group. And 40 percentage of wholesale traders each coming under the category of 45-55 and 55-65 years. This shows that youngsters are not interested in agricultural marketing field also. While coming to the gender wise classification of the respondent 5 dealers, all of them were male; this shows the monopoly of male in wholesale business of cowpea. It is clear from the table that majority, 60% of the dealers are having educational qualification of SSLC and, the remaining 40% of the respondent dealers are having primary school level of educational qualification. The analysis shows, none of the respondents are having any higher educational qualification than SSLC. As in the case primary occupation, it is obvious that all the respondent dealers primary occupation is business. This shows that they are getting enough money from business to meet their requirements.

**Table 4.8 Contract with the farmers**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Contract with farmers:</b>		
No	5	100
<b>Total</b>	<b>5</b>	<b>100</b>

Source : Compiled from survey

Table 4.8 reveals the details of contract with the farmers, by the wholesale traders. It is clear that none of the wholesale traders are not having any sort of contract with the farmers, for the procurement of the cowpea. So, even if the dealers procure unlimited quantity, there was a guarantee of selling this product, so there was no need of having a contract with the farmers.

**Table 4.9 Target customers of wholesale traders.**

<b>Target customer</b>	<b>No. of respondent</b>	<b>Percentage</b>
Retail traders	5	100
<b>Total</b>	<b>5</b>	<b>100</b>

Source: Compiled from the survey

Table 4.9 reveals the details regarding the target customers of the wholesale traders, retail traders were the main target. Wholesale traders from other districts were mainly focusing the retail traders of Kottayam and Alappuza main and wholesale traders from Nagalassery were targeting the local retail traders.

**Table 4.10 Mode of payment by wholesale traders**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Mode of payment</b>		
Cash	5	100
<b>Total</b>	<b>5</b>	<b>100</b>

Source: Compiled from survey

Table shows that 100% of the wholesale traders were making the payment through cash.

**Table 4.11 Storage facility available to farmers**

Storage is very important in marketing agricultural commodities due to its high perishability, storage increases the shelf life of cowpea.

<b>Particulars</b>	<b>No.of respondents</b>	<b>Percentage</b>
<b>Storage facility</b>		
Yes	5	100
<b>Total</b>	<b>5</b>	<b>100</b>
<b>Type of storage facility</b>		
Godown	5	100
<b>Total</b>	<b>5</b>	<b>100</b>
<b>No. of days taken to sell the product</b>		
On the same day	1	20
7 days	3	60
14 days	1	20
<b>Total</b>	<b>5</b>	<b>100</b>
<b>No. of days can keep the cowpea without deterioration</b>		
7 days		
14 days	2	40
	3	60
<b>Total</b>	<b>5</b>	<b>100</b>

Source: Compiled from survey.

From the table we can understand that all the wholesale traders are having storage facility. 75% of the respondent said that they have a godown for keeping the excess items. In case of number of days taken to sell the products, 60% say they were used to take maximum of seven days to sell whole Cowpea. In their opinion cowpea could keep for two weeks without any deterioration. And rest 20% says that they could sell the cowpea at same day itself.

**Table 4.12 Loss on sale**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Loss due to wastage</b>	5	100
Yes		
No		
<b>Total</b>	<b>5</b>	<b>100</b>
<b>Different types of wastage</b>		
Spoilage	5	100
Loss of weight	2	40
Mishandling		
Others		
<b>Total loss on account of:</b>		
Spoilage(per1000kg)	5	100
Below 50 kg		
50-60 kg		
Above60 kg		
<b>Total</b>	<b>5</b>	<b>100</b>
<b>Loss of weight</b>	4	80
Below 50 kg	1	20
50-60 kg		
Above 60 kg		
<b>Total</b>	<b>5</b>	<b>100</b>
<b>Mishandling</b>	-	-
Below 50 kg	-	-
50-60 kg	-	-
Above 60 kg	-	-
<b>Method adopted for adjusting the wastage:</b>		
Selling rest of the produce at high price	1	20
Taking for household consumption	3	40
Selling the low quality cowpea at low price	5	100
<b>Supplier/customer accept the damaged stock:</b>		
No	5	100
<b>Total</b>	<b>5</b>	<b>100</b>

Source: Compiled from survey

Table 4.12 shows the details regarding the loss on sale. All the respondents said that, there used to occur a loss on sale. Loss on sale might be due to spoilage, loss of weight, mishandling etc..as above mentioned. All the wholesale traders had loss in sale due to spoilage. 40% responded that loss of weight is the main reason for loss. Regarding the total loss, 100% respondent had below 50kg loss due to spoilage. In the case of loss of weight, 80% retail traders had loss of weight below 50kg. 20% said that they had loss of weight about 50-60kg. Selling the low quality cowpea at low price was the



one method adopted by all the wholesale traders. 40% wholesale traders were taking the low quality or damaged stock for household consumption. And one wholesale trader is selling the rest of the rest of the product at a high price to compensate the price of damaged stock.

**Table 4.13 Marketing risk faced by the dealers**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
Unsold produce	5	100
Spoilage	1	20
Low price	3	60
Default payment	2	40

Source: Compiled from survey

This table reveals that, unsold produce is the one of the important marketing risk faced by all the wholesale traders, which accounts to all 100%. 40% of respondent dealers were facing a risk of default payment. Another 60% had the problem of low price of cowpea in the market.

### **3. Retail traders**

Retail traders play a major role in bringing the produce from its point of production to point of consumption. They purchases from wholesale traders and sells to consumers.

#### **Profile of retail traders**

For the purpose of getting details from retail traders, 5 of them were surveyed. Below table shows the details of retail traders.

**Table No. 4.14 Profile of retail traders**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Age(years)</b>		
Below 35	1	20
Between 35-45	1	20
Between 45-55	2	40
Above 55	1	20
<b>Gender</b>		
Male	5	100
Female	0	0
<b>Educational qualification</b>		
Below SSLC	3	60
SSLC	2	40
<b>Primary occupation</b>		
Business	5	100

Source: Compiled from survey

From the table 4.13 we can see that dealers are from all age groups. All the dealers are male and two of them having education below SSLC and 3 o them are having SSLC. All the 5 are having business as their primary occupation.

**Table 4.15 Details of retail traders**

<b>Particulars</b>	<b>No. of respondents</b>	<b>Percentage</b>
<b>Type of contract</b>		
Oral	5	100
<b>Procurement of cowpea</b>		
From whole sale traders	5	100
<b>Mode of payment</b>		
Cash	5	100
<b>Mode of transportation</b>		
Owned vehicle	4	80
Rent	1	20
<b>Seasonal variation insales</b>		
Yes	5	100
<b>Storage facility</b>		
No	5	100
<b>Type of marketing risk</b>		
<b>Risk</b>	<b>Score</b>	<b>Rank</b>
Spoilage		1
Unsold produce		2
Low price		3
Default in payment		4
<b>Problems in marketing</b>		
<b>Problem</b>	<b>Score</b>	<b>Rank</b>
High transportation cost		1
Lack of storage facility		2
Loading and unloading		3
Loss during transportation		4
Poor quality of produce		5
Lack of market information		6
No processing		7

Source: Compiled from survey

From the table 4.14 we can see that retail traders are procuring cowpea from wholesale traders and keeping oral contract with them. Payment is made as cash.80% of the dealers are carrying produce in their own vehicle. They are not having any storage facilities. Type of risk they are facing is the spoilage to the produce. In the opinion of dealers the main problem they are facing is the high transportation cost, lack of storage facility. Loading and unloading charge is also high. There is no value addition done on cowpea in the study area.

## 4. Consumers

Consumers is the end user of the produce. He is having more importance in the chain. Other members of the chain are depended on the preference of the consumer. For this purpose 5 consumers were surveyed and their purchasing details were collected.

**Table 4.16 Profile of consumers**

<b>Particulars</b>	<b>No. of respondents</b>	<b>percentage</b>
<b>Age(Years)</b>		
Between 25-35	1	20
Between 35-45	1	20
Above 45	3	60
<b>Gender</b>		
Male	4	80
Female	1	20
<b>Educational status</b>		
Below SSLC	1	20
SSLC	1	20
Pre-degree	1	20
Graduation	2	40
<b>Primary occupation</b>		
Agriculture	1	20
Govt employee	2	40
Business	1	20
Others	1	20
<b>Family type</b>		
Nuclear	5	100
Joint family		
<b>Annual income (Rs/-)</b>		
Between 50000-10000	1	20
Between 1-2 lakh	1	20
Between 2-4 lakh	2	40
Above 4 lakh	1	20
<b>Purchase decision</b>		
Husband	1	20
Husband & wife	4	80
<b>Actual purchase</b>		
Husband	5	100
<b>Consumption mode of cowpea</b>		
Raw	5	100
Value added product		
<b>Awareness about value added products</b>		
Yes	4	80
No	1	20

From the table 4.15 almost all the respondents lie in the age group above 45. Consumers are having different jobs including agriculture, government jobs, private jobs etc... all the respondents are from nuclear family. In majority of families, decision taken by husband & wife and actual purchase is made by husband. In all the families cowpea is used for culinary purpose. Four of the respondents are aware of value addition of cowpea (kondattom)

## **PART II**

### **Mapping of Value Chain of Cowpea In Nagalassery Grama Panchayat**

#### **Introduction**

A value chain can be defined as the full range of activities which are required to bring a product or service from conception, through the different phases of production, harvesting, marketing and final consumption(involving a combination of physical transformation and the input of various product services), delivery to final consumers, and final disposal after use. The chain actors who actually transact a particular product as it moves through the value chain including input(eg. Seed suppliers,), traders, farmers, processors, transporters, wholesale traders, retail traders and final consumers

Mapping(G. Veerakumaran 2012) is the process of making a pictorial representation of the value chain analysis. Mapping is considered as the tool of the value chain. Mapping of the value chain is the use of models, tables, figures etc, to capture the essence of value chain. It gives a basic overview of the value chain and visualizes networks to get a better understanding of connections between actors and processes. It also identifies the constraints at different levels in the value chain. Hence an attempt has been made to study and map the value chain of cowpea with the following questions :

- 1) What are the different core processes in the cowpea value chain ?
- 2) Who are the actors involved in the cowpea value chain and what do they actually do ?
- 3) What are the specific activities of core process?
- 4) What are the flows of product , information and knowledge in the value chain?
- 5) where does the cowpea originate from and where does it go ?

- 6) How does the value changes throughout the chain?
- 7) What type of relation and linkages exist?
- 8) What types of business services feeding into the chain ?

### Steps in mapping

Here, mapping of value chain is done through following steps :

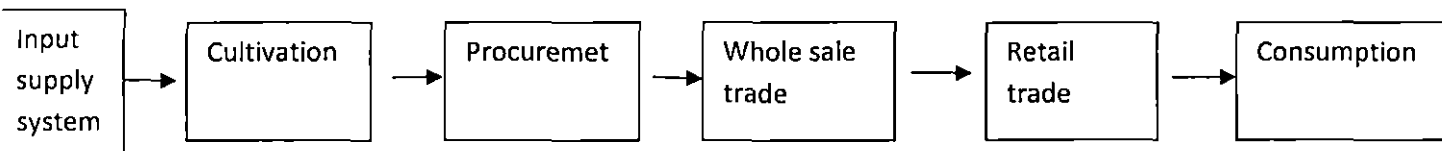
- Step1 : Mapping the core processes in the value chain
- Step2: Mapping the main actors involved in the process
- Step3: Mapping specific activities undertaken by actors in the value chain.
- Step4: Mapping flows of product, information and knowledge in the value chain
- Step5: Mapping the geographical flow of the product
- Step6: Mapping the value at different levels of value chain
- Step7: Mapping relationships and linkages between value chain actors
- Step8: Mapping constraints at different levels of value chain

The Nagalassery grama panchayat comes under Pattambi Taluk in Palakkad district. Total area of the panchayat is 26 sq.km. There are 17 wards and 6 villages in the panchayat. Nagalassery panchayat includes North Thrithala, Kadangode, Kadavallur, Thirumittakaode, Chalissery and Pattithara. Major crops cultivating in this panchayat are Paddy, Banana, Pepper, Cocunut , Arecanut etc... Vegetables are cultivating in 150 hectares. Marketing is done mainly through local markets.

### 1. Core process in the value chain of cowpea

The first question that must be asked in the value chain analysis is what the different (core) processes in the value chain are.. Thus the first step is to find the core processes in the value chain. In other words, what processes occur from inputs to raw material through to final consumption stage. The core processes in the value chain of cowpea is shown below:

**Fig. 4.1 CORE PROCESS IN THE VALUE CHAIN OF COWPEA**



The value chain mapping of cowpea starts with mapping the core processes in the value chain of cowpea in Nagalassery panchayat of Palakkad district. It includes input supply, Cultivation, Procurement, Whole sale trade, Retail trade and ends with consumption.

**Input Supply:** Input provision can be defined as the facilities provided by somebody or obtained something as input for the better cultivation of Cowpea. Seeds, fertilizers, pesticides etc are the main input involved in the cultivation of cowpea. Seed is the planting material of Cowpea and its quality is essential for better output. Fertilizers increase the fertility of soil, which in turn results in high yield. Pesticides help the plants to get rid of pest and their attack. In Nagalassery grama panchayat, these inputs are mainly provided by Krishibhavan. Inputs are provided at subsidized rates. The next important input is finance and most of the farmers take own fund for cultivation, the farmers who can't meet the financial needs have gone for bank loans. Commercial banks and Co-operative banks are the main institutions which have provided loans to farmers of the study area. The other main input is labourers and farmers depend mainly on labourers of same locality for farming activities. The other inputs technology (agricultural tools and machines) which reduces human efforts. Krishibhavans and local people supply machines and agricultural implements for hire. Training is also an important input, which increases the efficiency of farmers. Krishibhavan organizes classes to farmers on various topics such as improved techniques in farming, organic farming etc... discuss their problems and suggest measures to tackle them.

**Cultivation:** Cultivation can be defined as the caretaking of plants to get high yield. Quality and quantity of output directly depends on it. Better cultivation and caretaking results in better output. Before planting cowpea seeds, it should be inoculated with Rhizobium and pelleted with lime. Plough the land thoroughly 2-3 times and remove weeds and stubbles. Make channels of 30.cm breadth and 15.cm depth at 2 m apart to drain off excess rainwater. For grain type and dual purpose type, if dibbling is adopted, spacing of 25.cm between rows and 15.cm between plants is suitable. For semi-trailing varieties provide a spacing of 45 x 30 cm. Trailing varieties can be sown in pits ( @ 3 plants / pit ) at 2x2 m spacing for trailing on pandal or in channels at 1.5m x 45.cm spacing for trailing on trellis. Before sowing, plough the land thoroughly 2-3 times and remove weeds and stubbles. Make channels of 30.cm breadth and 15.cm depth at 2 m apart to drain off excess rainwater. Regarding, lime may be applied at the time of the first ploughing. Half the quantity of nitrogen, whole of phosphorus and potash may be applied at the time of final ploughing. The remaining nitrogen may be applied 15 – 20 days after sowing.

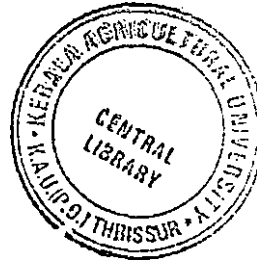
**Procurement:** Procurement can be defined as the collection and storing of cowpea. Timely procurement is important in the case of agricultural commodities, due to its high perishability. In the study area, wholesalers directly procure cowpea from farmers. Regarding the procurement, if the quantity of produce is small, farmers have to make their own arrangements to carry it to wholesalers.

After the procurement, the produce will be graded into first quality and second quality and is at different prices to retailers.

**Wholesalers:** Wholesalers procure it from farmers and sell it to retail traders of different parts of kerala. A small quantity is sold in Nagalassey itself but majority of the produce is sold in other districts.

**Retail traders :** Retail traders procure from wholesale traders and sells to consumers.

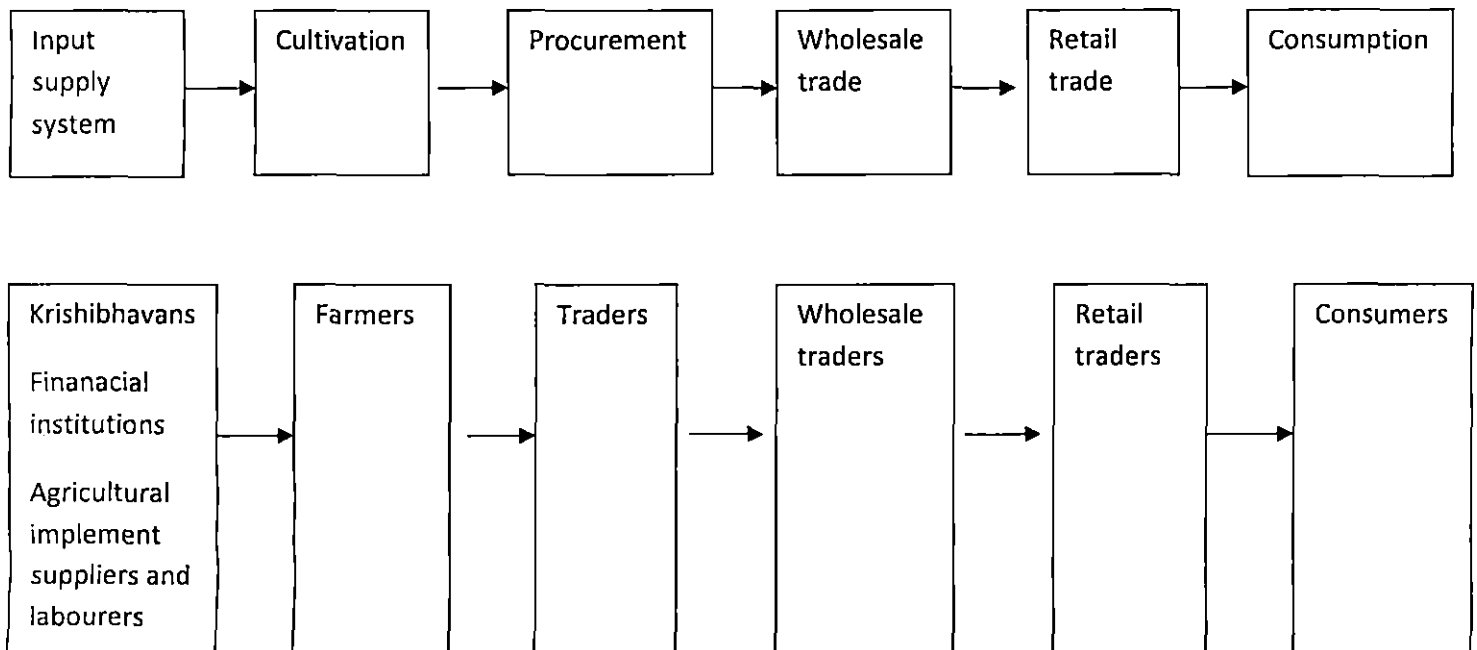
**Consumers:** Consumers are the end users of produce and the value chain ends with them



## 2. Actors involved in the processes

Once the main processes are mapped, we can move on to the actors. The second main question deals with this step: Who are the actors involved in these processes and what do they actually do? How to distinguish between actors depends on the level of sophistication the mapping exercise is trying to reach.

**Fig 4.2 Actors involved in the value chain**



The main actors involved in the input provision are Krishibhavans, Local traders, Private agents, Local agents and local farmers.



**Krishibhavan:** Krishibhavan plays an important role in input supply. It supplies seeds, fertilizers and pesticides to the farmers. They also conduct various *training programs to farmers*. Technical support is also provided by Krishibhavan. Thus it also plays an important role in input supply.

**Financial Institutions :** They provide financial help to the farmers who are in need of money for the cultivation. In Nagalassery panchayat finance is mainly provided by Commercial banks and Co-operative banks.

**Agricultural implement suppliers and agricultural labourers;** They are another source of agricultural implements and machines by Krishibhavan to many of the farmers. Local farmers are playing a vital role as the source of seeds to the farmers. Labour requirements for farming are also met from the local people.

**Farmers :** Farmers are the cultivators of cowpea required to the chain. Proper cultural practices should be taken for better productivity. Cowpea can be grown in any season. (1) As a rain fed crop, sowing is done in the month of June. The most suitable time is after the first week of June. (2) During the second crop season (*rabi*), i.e., September to December, cowpea can be grown as a fringe crop along the rice field bunds. Sowing can be done on either side of bunds on the day of transplanting the paddy crop. (3) During summer, cowpea can be grown as a pure crop in rice fallows after the harvest of paddy.

**Wholesale traders:** They are the actors involved in the procurement as well as marketing of the cowpea. They are procuring from private agents of Tamilnadu, Thrissur, Palakkad etc. They are marketing the cowpea to retail traders and also to the consumers.

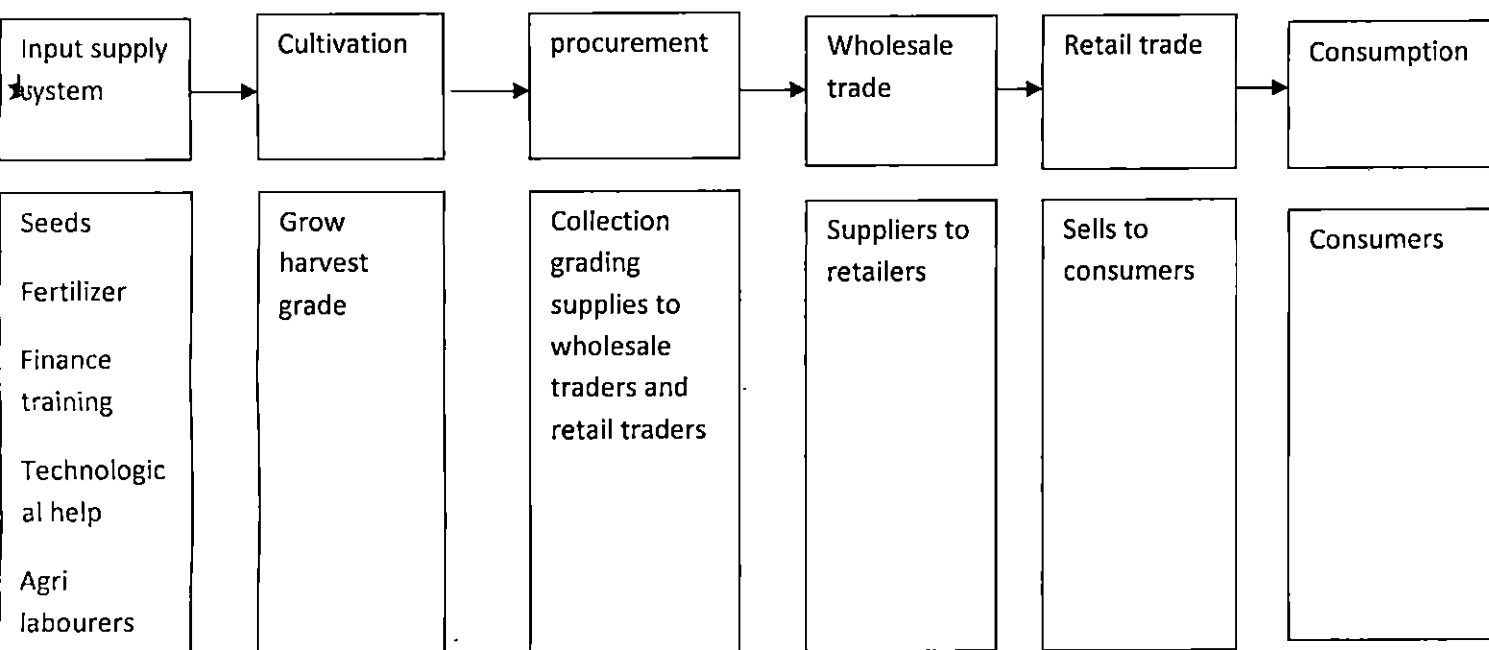
**Retail traders:** They are the other actors who procure from farmers, wholesale traders and they sell the cowpea to the consumers.

**Consumers:** They are the final actors Cowpea value chain. They consume it and value chain ends with them.

### **3. Specific activities undertaken in the value chain**

The value chain of cowpea comprises of different activities at different stages of input provision, cultivation, procurement, wholesale trade and retail trade. These specific activities are given in the following figure:

**Fig 4.3 Specific activities undertaken in the value chain.**



**Input supply system:** Input supply includes supply of seeds, fertilizers, pesticides, credit and agricultural tools, providing training etc... Krishibhavan, banks, local people are the main actors in input supply.

**Cultivation:** Cowpea cultivation starts from the planting of seeds. Cowpea can be cultivated throughout the year. The seed should be planted in correct spacing of 45x30.cm. The next important activity is manuring. Lime may be applied at the time of the first ploughing. Half the quantity of N, whole of phosphorus and potash may be applied at the time of final ploughing. The remaining N may be applied 15 – 20 days after sowing. Regarding irrigation, giving two irrigation is highly beneficial; i.e., at 15 days after sowing and at the time of flowering. The harvesting period of cowpea is 45 – 60 days. And it is harvested manually.

**Procurement:** Procurement means the collection of cowpea. In Nagalassery grama panchayat, farmers themselves grade the product into first quality and second quality and sell it on the same day. Wholesale traders buy from farmers and sell to different parts of Kerala.

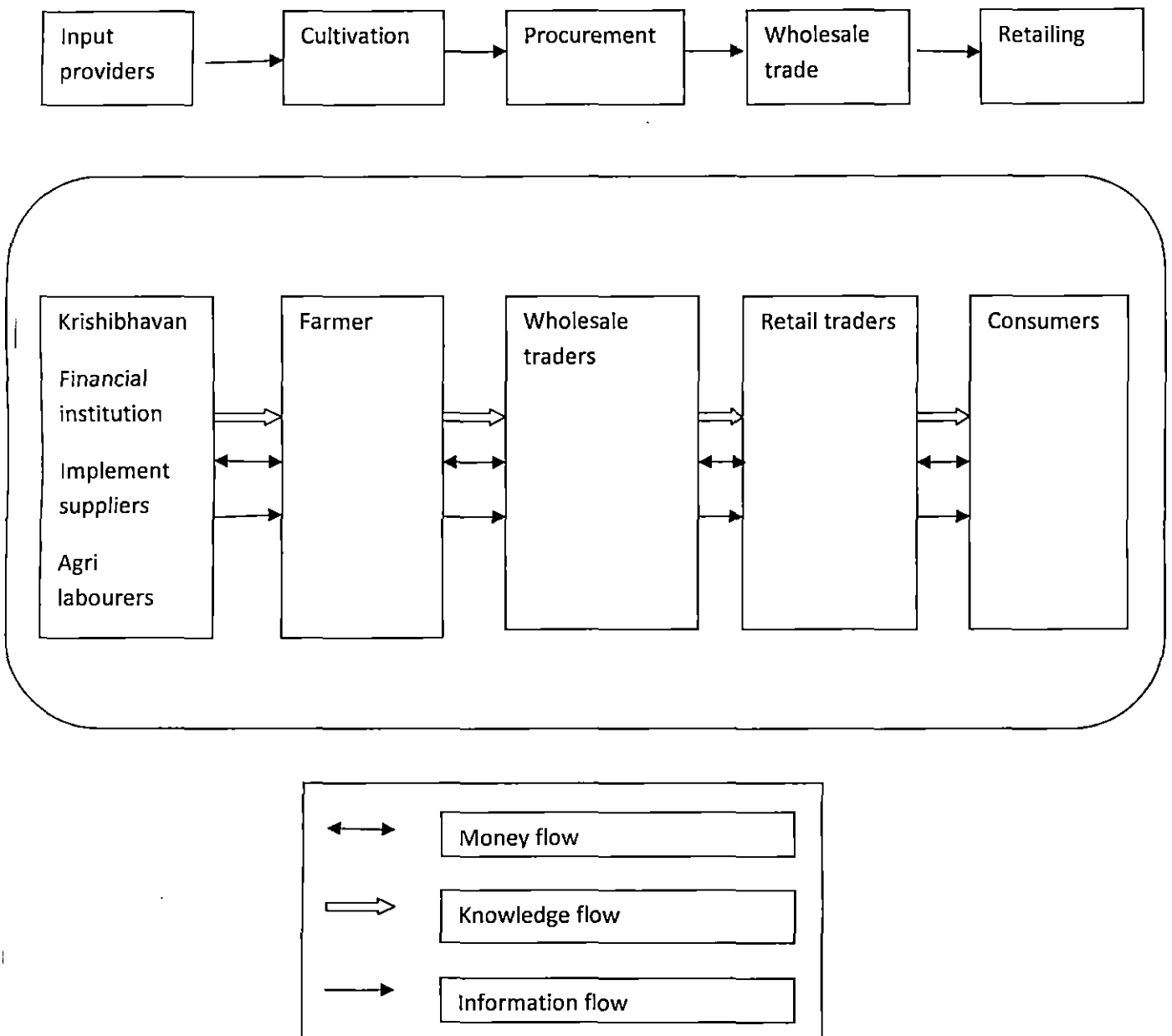
**Wholesale trade:** Farmers are selling their output by grading it to first quality and second quality. Wholesalers take the produce from farmers and sell it to different parts of Kerala. They sell a small quantity of produce in Nagalassery.

**Retail trade:** Retail traders sell cowpea to consumers.

#### 4. Flow of the product, information and knowledge in the value chain.

The reason for the existence of a value chain is that goods, services or information is passed on between different actors. Different flows goes through every value chain. These flows can be both tangible and intangible: products, goods, money, information, services etc...finding out what flows there are is one of the main objectives of any value chain analysis. Mapping these flows can be quite straightforward when it comes to products: one should simply follow the stages that the tangible product goes through, from raw material to final product. Other- intangible – flows, like information and knowledge, might be more complicated to capture in a visual manually.

Fig 4.4 Flow of product, information and knowledge in the value chain

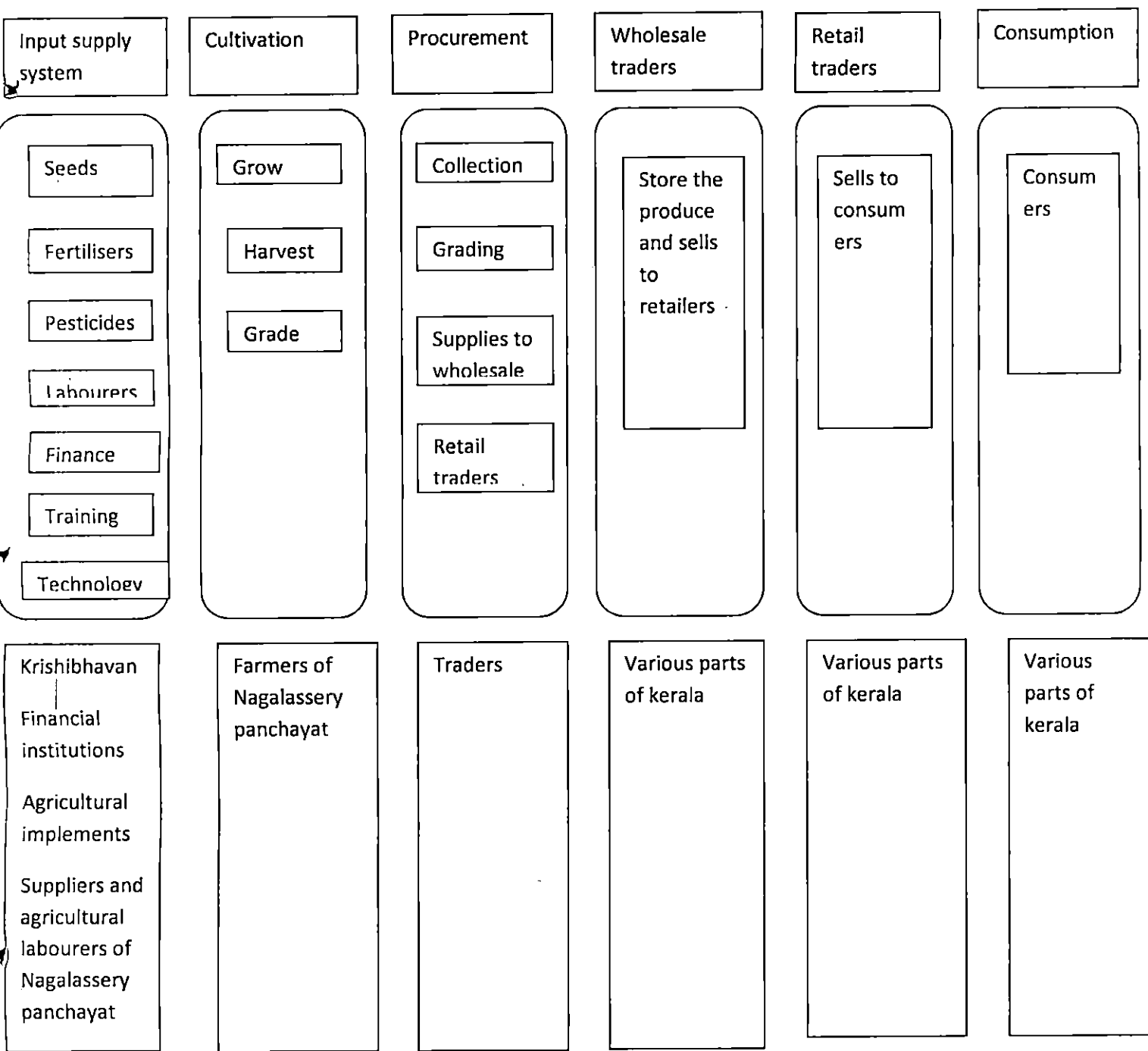


The product is the value chain is the cowpea from Nagalassery panchayat. This paragraph depicts how information and knowledge about the cowpea is flowing between the actors. The farmers are getting information and knowledge about the inputs mainly from Krishibhavan, financial institutions and agricultural implements suppliers and agricultural labourers. For their service they are paid by farmers. Information about price of cowpea is collected from traders and fellow farmers.

## **5. The geographical flow of the product**

A very straightforward way of mapping is to actually made a geographical map, following the trail of the product or service you want to map. Start at the place of origin (for instance where it is cultivated) and see if you can map how the product travels from intermediary trader to processors, wholesalers, retailers and and final consumer. The first step in the mapping of geographical flow of the product is to identify where each of the processes in the value chain are physically located. This mapping starts at the place of origin and tries to trace how the product travels from farmer to wholesaler, retailer and final consumer.

**Fig 4.5 geographical flow of the product**



Seeds, fertilizers and pesticides are getting from Krishibhavans of Nagalassery panchayat. Training classes to farmers on improved techniques on farming, organic farming etc...are also conducted by Krishibhavan. Loans are taken from commercial banks and co-operative banks of Nagalassery. Agriculture tools are hired from local people and Krishibhavan. The cultivation of cowpea is carried out in Nagalassery panchayat. Procurement, grading and marketing carried out by wholesale traders. Procured cowpea is marketing to different parts of kerala.

## 6. Value addition at different levels of value chain

A core element of value chain mapping is to map the monetary value through the chain. The most straightforward depiction of a monetary flow would be to look at the value that is added at every step throughout the chain, providing an overview of the earnings at the different stages.

### a) Production cost- farmer

The cost of production revenue and margine of cowpea for the different actors is calculated below :

Land preparation –	₹ 4
Seed -	-50 paise
Fertiliser	- ₹ 3.50
Manure and pesticide-	₹ 3/-
Transportation	- ₹ 5
Total cost 1 kg	- ₹ 22/-
Selling price	- ₹ 32
Margin	- ₹ 32- ₹ 22= ₹ 10/kg

### b)Procurement cost and trade expenses – wholesaler

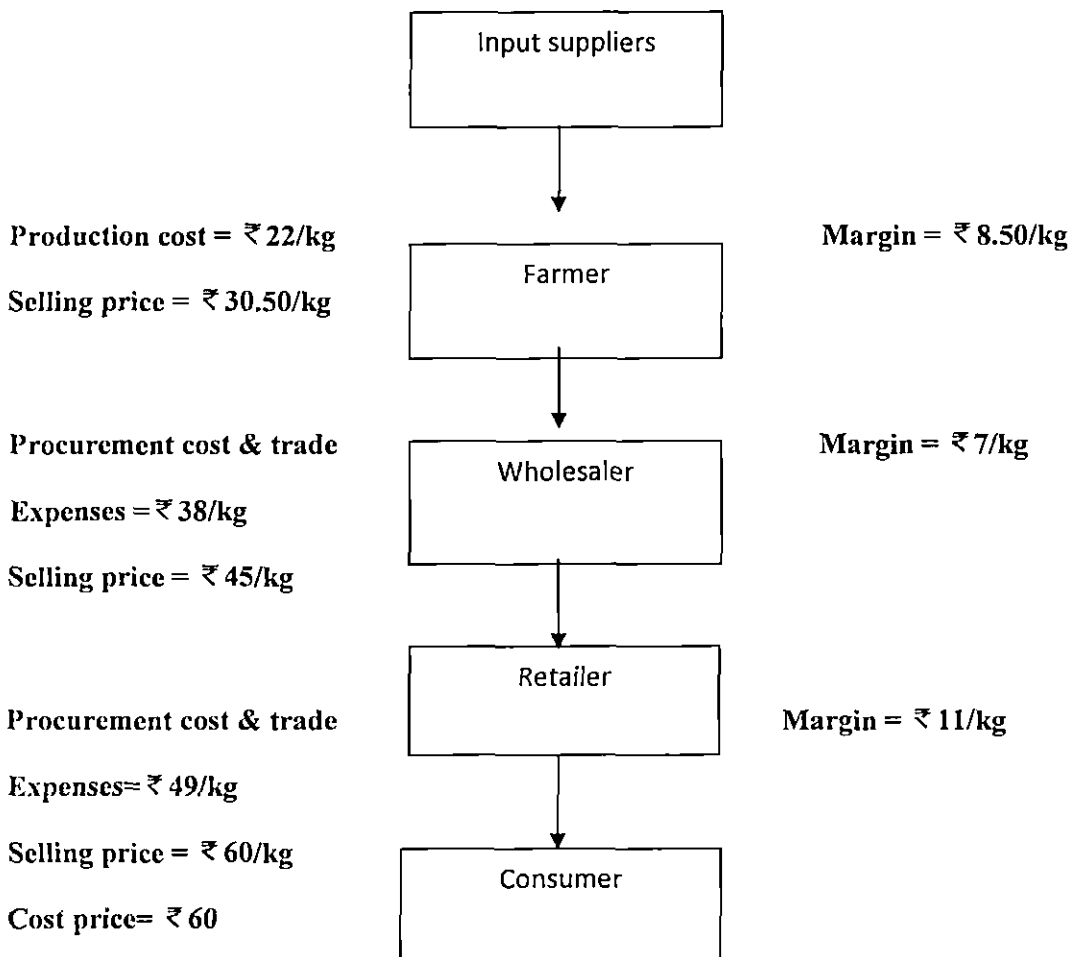
Purchasing price	- ₹ 32/-
Transportation cost	- ₹ 4
Loading and unloading charges	- ₹ 2
Total cost	- ₹ 38
Selling price	- ₹ 45
Margin	- ₹ 7/-kg

### c) Procurement cost and trade expenses – Retailer

Purchasing price	- ₹ 45
Transportation cost	- ₹ 4
Total cost	- ₹ 49
Selling price	- ₹ 60
Margin	- ₹ 11/kg

The value addition in the different stages of value chain for 1kg of cowpea is presented in Fig.4.6

**Fig 4.6 Value addition at different levels of value chain**



For finding out the value at different levels of value chain, a survey has been conducted within the actors of cowpea value chain. The cost incurred by the farmer includes labour charges, cost of inputs like fertilizer, seeds, pesticides, transportation charges etc... the cost cultivation of 1kg of cowpea is ₹ 22/- . The cost of procurement of cowpea by wholesale traders is ₹ 38/- including the cost of transportation, loading and unloading etc.. the cowpea is sold to retailers at a price of ₹ 45/- and retail traders are also incurring expenses. The procurement price of cowpea is ₹ 49/- and it is sold to consumers at a price of ₹ 60/-. The highest margin in cowpea value chain is available to retail traders of ₹ 11/-per kg.

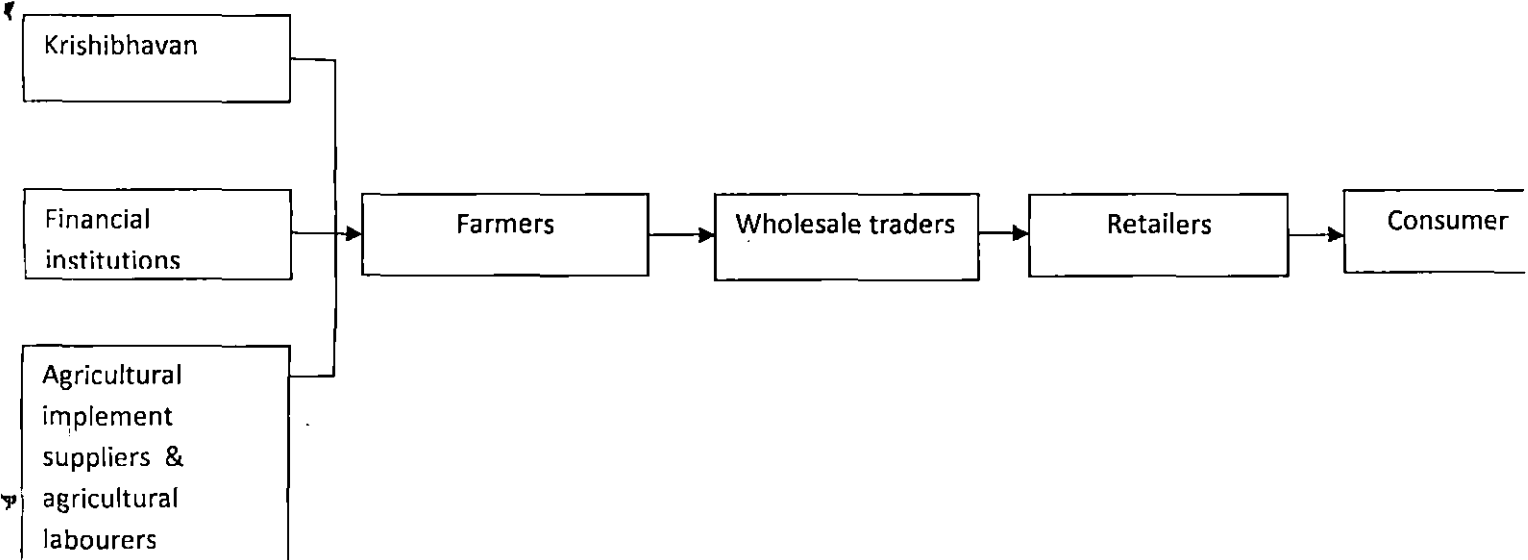
Fig 4.6 depicts the value addition of cowpea in Rupee. It is clear that while passing from the farmer to the consumer there is huge difference in the value paid to the farmer and paid by the consumer.

## 7. Relationships and linkages between value chain actors

Mapping linkages between value chain actors starts with marketing an overview of the actors. The next step is to analyze what kind of relationship actors have. This is covered by the following core question: *What type of relationship and linkages exist?*

Relationships can exist between different process steps (producer and trader) and within the same process (farmers to farmer). The relationships between different actors can be mapped in the part on finding a typology of actors, as covered by the second core question . The sustainability of the value chain of cowpea depends largely on the relationships and linkages between the various actors of the value chain.

**Fig 4.7 Relationships and linkages between value chain actors.**



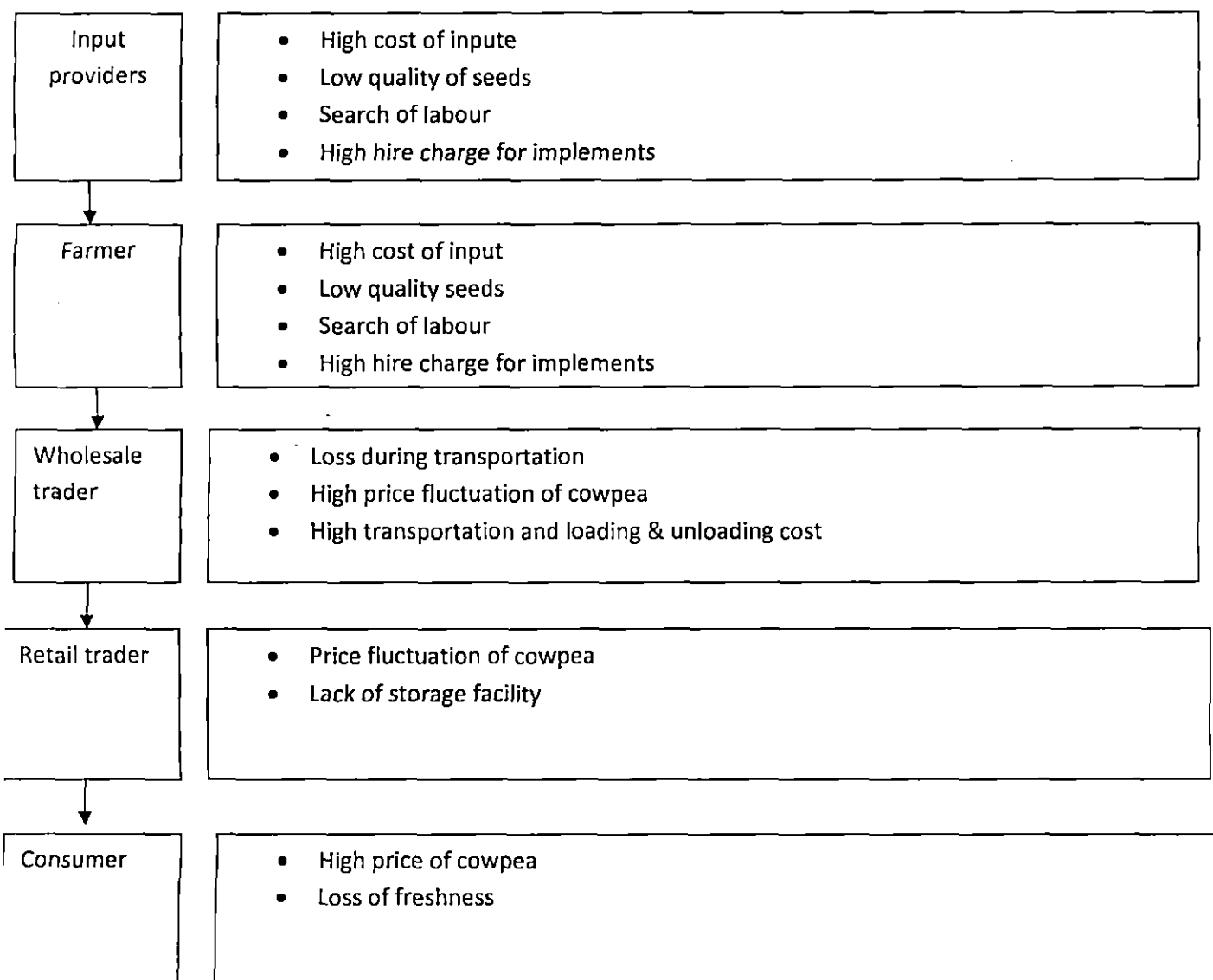


Krishibhavan plays an important role in the farming activities of Nagalassery panchayat by providing various inputs. It includes seeds, fertilizers and pesticides. Seeds provided by Krishibhavan and given to farmers which gives high yield. These seeds are having high resistance power also. Other inputs are fertilisers and pesticides. Krishibhavan is providing pesticides ,chemical fertilizers and bio fertilizers at subsidized rate. It also provides technical support , by providing agricultural implements on hire and conducting training programs to farmers to increase their efficiency.

## 8. Constraints at different levels of value chain

Constraints exist at almost all process levels of any value chain. Constraints at different levels of cowpea value chain are identified and given below.

**Fig 4.8 Constraints at different levels of value chain**



Mapping of cowpea is done through 8 steps. Through these steps we have identified the core process in the value chain, main actors involved in it , specific activities, flow of product, core process of value chain, actors of value chain, geographical flow of cowpea, flow of information, money, various linkages and at last various constraints at different levels of value chain are the steps of value chain mapping. The main players in the value chain of cowpea farmers, wholesale traders, retail traders and consumers. It starts with the production of cowpea. This cowpea after harvesting is procured by traders and marketing to different parts of kerala and a small amount is supplied to retail traders of Nagalassery and from them consumers purchase it. Consumer is the end user of cowpea and the value chain of cowpea ends with them. Krishibhavans plays an important role in the supply of inputs.

# CHAPTER 5

## SUMMARY OF FINDINGS, CONCLUSION & SUGGESTIONS

### 5.1 MAJOR FINDINGS

- From the study we can understand that , an efficient value chain has an important role in the marketing of cowpea
- Nagalassery grama panchayat has suitable geographical factors for cowpea cultivation
- Cultivating cowpea does not require much effort but to achieve high yields requires skills, dedication, and proper planting methods
- Majority of the farmers engaged in farming are male.
- Majority of the farmers engaged in cowpea cultivation are of the age above 55.
- Farmers are using machines for preparation of land. But deweeding and harvesting is done manually.
- All the farmers having owned land and majority of the farmers are small and marginal farmers
- Almost all the farmers are having an experience of above 10 years incowpea cultivation.
- Since the farmers themselves are marketing the produce wastage from mishandling can be reduced and avoided
- Farmers collect seeds from Krishibhavan and the seeds using are of high yield and of high resistance in nature.
- Almost all the farmers have taken loan fore carrying out farming activities and the main source of credit is Commercial bank and Co-operative bank.
- Farmers are getting subsidies for seeds, fertilizers and pesticides from Krishibhavan.
- All the farmers used to attend training programs and they are of the opinion that it has increased their farming ability. Krishibhavan is the main institution which provides training to farmers.
- Almost all the farmers are depending on wells for irrigation purpose.
- *About 15% of the yield may be loosed due to pest, disease and poor climate conditions such as wind and flood.*
- High labour charge is the main problem that farmers face during cultivation
- Labour charge is also existing in the study area.
- Cost of cultivation of cowpea in every stage is increasing than as earlier.
- Majority of the farmers are satisfied with the price getting for their produce.

- Vegetable including cowpea farmers are not getting any support price for their produce in sudden price fall. Therefore, the farmers find it difficult to continue the cultivation.
- Warehousing facility and storage facility are not used by farmers.
- Farmers are marketing their produce as fresh
- Acreage under the crop has fell considerably.
- The retail traders are getting highest margin in the cowpea value chain.
- There is high demand and sale of cowpea during the onam and vishu season.

## 5.2 CONCLUSION

The value chain of cowpea starts with the cowpea farmers. From the study entitled “Value Chain Analysis of Cowpea In Nagalassery Grama Panchayat of Palakkad District” concludes that the major and important actor in the value chain is farmers. Cowpea cultivation in the Nagalassery panchayat is showing a decreasing trend at present compared to the previous years. The reason for this is increasing cost of cultivation. Labour cost and shortages of labourers are the main problems faced by the farmers during cultivation. Krishibhavan plays an important role in the lives of Nagalassery grama panchayat. They supplies various inputs like seeds, fertilizers and pesticides to farmers at subsidized rates. This helps the farmers to reduce their cost of cultivation. Farmers get fair price for their produce. Farmers are interested in farming because they are sure about the market for their produce. Climatic problems are another threat to farmers. Like most other fruits and vegetables, cowpea is subjected to disease. Plant protection measures are required to be adopted for better yield. For this, the farmer must select planting material free from insects.

## 5.3 SUGGESTIONS

- More processing technologies and processing units have to be established in order to get a fair return
- Majority of the farmers have the opinion to fix the support price for vegetables.
- Cowpea can be planted as intercrop which increases efficient land usage. It is a leguminous plant which helps in nitrogen fixation, which increases the fertility of soil.
- All our efforts should be to pool all available technologies and nutrient resources to get the maximum results.
- Selection of suitable seeds, timely sowing, integrated nutrient and plant protection measures
- Maintenance of minimum population per unit area would largely contribute to a substantial increase in yield.
- Integrated nutrient management and integrated pest management continue to be good concept yet to be practiced.
- Attract young people by providing consultancy and training
- Ensure time availability of institutional assistance to farmers

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## ABSTRACT

The study entitled “Value Chain Analysis of Cowpea in Nagalassery grama panchayat of Palakkad district” was undertaken with the objective of identifying various stakeholders in the Cowpea Value Chain And mapping the value chain.

The study was mainly based on primary data. The primary data were collected from 45 respondents (30 farmers, 5 Whole salers, 5 Retailers & 5 Consumers). The secondary data was collected from websites, journals, records kept by Krishibhavan ...etc

Five actors are involved in the value chain of cowpea and they are input suppliers, farmers, Wholesale traders, retail traders & consumers. The study area selected was Nagalassery grama panchayat of Palakkad district, which is a potential area for cowpea cultivation. Farmers were selected using Random Sampling Method from the panchayat. The calculations were made from the data collected during the months of May and June of 2014. Socio economic characteristics of the stakeholders, production, procurement and marketing details were analysed through percentage method. For analyzing the collected data Percentage Analysis, Frequency and rank order scale was used. Margin of different players were also calculated and retail trader fetches highest margin followed by farmers. All the actors of value chain are facing many constraints regarding the input supply, cultivation, credit/finance, and marketing. Government should take effective measures for solving all these problems. Even though there are having demand and all the factors are favouring the techniques and marketing of value added products have to be initiated. The findings suggest that aimed at strengthening linkages within the value chains, collective marketing and initiating the processing techniques may provide potential avenue for enhancing cowpea value chain in Nagalassery grama panchayat.



# *Appendix*

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**KERALA AGRICULTURAL UNIVERSITY**

**COLLEGE OF COOPERATION BANKING AND MANAGEMENT**

**VELLANIKKARA**

**VALUE CHAIN ANALYSIS OF COWPEA IN NAGALASSERY GRAMA  
PANCHAYAT OF PALAKKAD DISTRICT**

**Interview schedule for farmers.**

1. Name of the respondent :
2. Address :
3. Age : Below 35 years   
Between 35 – 45 years   
Between 45 – 55 years   
Above 55 years
4. Sex : Male   
Female
5. Educational status : Below SSLC   
SSLC   
Pre – degree   
Graduation   
Post - graduation
6. Primary occupation : Agriculture   
Govt employee

Business

Others

7. Annual family income : Below 1 lakh

Between 1 – 2 lakh

Between 3 – 5 lakh

Above 5 lakh

8. Family type : Joined

Nuclear

9. Number of family members

10. Do you have land holdings ? : Yes  No

11. Details of land holdings : a) Area owned

b) Area on lease

12. Total area under cowpea cultivation :

i. Less than 0.5 acre

ii. 0.5 – 2 acre

iii. 2 – 5 acre

iv. More than 5 acres

13. Years of experience in cowpea cultivation :

i. Less than 5 years.

ii. 5 – 10 years.

iii. 10 -15 years

iv. More than 15 years.

14. For how many seasons you raise cowpea and what are they ?

i. May – June

ii. August – September

iii. November – December

iv. January – April

15. Usual date of sowing of cowpea ?

16. Which variety is used for cultivation?

17. Seasons of cowpea cultivation in each year ?

18. What is the harvesting period of cowpea ?

19. Can you harvest in correct maturity stage ?

20. Number of harvest in a year?

21. Price in each season in each harvest ?

22. What are the harvesting techniques used ?

23. How much pods you can harvest in one day ?

24. From where do you buy seeds for cultivation ?

i. Panchayat

ii. Krishibhavan

iii. Agri – departments

iv. Others

25. Do you use chemical fertilizers in cultivation?

i. Yes

ii. No

26. If yes, what are they?

i. Urea

ii. Factom phos

iii. M. O. P

iv. Others (specify)

27. What are the organic manures used?

i. Cow dung

ii. Bone meal

iii. Fish waste

- iv. Goat manure
28. At what intervals do you use fertilizers / manures?
- i. Once in 10 days
  - ii. 10 – 20 days
  - iii. 20 – 30 days
29. Source of procurement of fertilizers?
- i. Panchayat
  - ii. Krishibhavan
  - iii. Agri – departments
  - iv. Others (specify)
30. Do you use pesticides ?
- i. Yes
  - ii. No
31. If yes , sources
- i. Panchayat
  - ii. Krishibhavan
  - iii. Agri – departments
  - iv. Others (specify)
32. If no why ?
33. Then how do you control pests ?
34. How do you control diseases ?
35. Do you borrow money for carrying out the activity in cowpea cultivation ?
- i. Yes
  - ii. No
36. If yes sources
- i. Cooperative banks
  - ii. Local money lenders
  - iii. Other commercial banks

iv. From the buyer of your produce

v. Others (specify)

37. If no why ?

i. Fear of inability to repay

ii. No access to credit

iii. High rate of interest

iv. Lack of collateral security

v. No need of credit

vi. Others (specify)

38. Source of irrigation

i. Well

ii. Pond

iii. Canals

iv. Others (specify)

39. Do you get subsidy of any kind ?

i. Yes

ii. No

40. If yes what are they ?

41. Input prices and provisions

Inputs	Sources	Price / unit interest rate	Subsidy
Seed			
Fertilizer			
N			
P			
K			
Pesticides			
Financial			

42. How much amount is spend on the above ?

43. At what intervals you use pesticides / fungicides ?

44. Do you involve family labour ?

45. What are the main problems faced by you during the cultivation period ? (Rank in the order)

- Unavailability of inputs
- Scarcity of labour
- High labour charge
- Increasing cost of input
- Pest and disease attack
- Decreasing demand
- Climatic problems
- Others any .....specify


46. Do you using high tech farming techniques ?

47. If so , what is the improvement over traditional farming method ?

48. Do you have godowns or ware house ?

- i. Yes
- ii. No

If yes ,

- i. Leased
- ii. Owned
- iii. Rented

49. How do you store the produce of previous day harvest ?

50. After harvesting , are you adding any value to the cowpea ?

- i. Cleaning
- ii. Sorting
- iii. Grading
- iv. All of the above

51. How the traders order the cowpea ?

- i. By phone
- ii. In person

iii. Others (specify)

52. What are your produces ?

- i. Fresh produce only
- ii. Value added products
- iii. Both

53. Where to you sell your products ?

- i. Directly to consumers
- ii. Farm gate traders
- iii. Wholesale traders
- iv. Processors
- v. Hostels
- vi. Apartments
- vii. Local shops
- viii. Others (specify)

54. Do you export cowpea ? If yes , in which season and which variety ?

55. At what price you sell the produces ? price / Kg

Produces	Cowpea	Kondattam	Others
Years			
2010			
2011			
2012			

56. How do you fix the price for the cowpea you sell ?

- i. Market price
- ii. Supply
- iii. Demand
- iv. Others.



57. In which season you get highest price ?

58. How many times you will marketed in a week ?

59. How do you obtain information about price of cowpea sold in your market or elsewhere ?

i. Radio

ii. News paper

iii. Fellow farmers

iv. Traders

60. Percentage of wastage during different phases of production

Sl No.	Particulars	Percentage
1	Growing	
2	Harvesting	
3	Post harvesting	
4	Others (specify)	

61. How can you reduce the wastage in the different stages ?

62. Whether you are getting any technical support ?

Yes / No

63. If yes from where ?

i. Panchayat

ii. KVK

iii. Krishibhavan

iv. Others

64. Have you attended any training program on cowpea cultivation – pre and post harvesting practices ?

i. Yes

ii. No

65. If yes who provided the training and when ?

66. Did attending the program improve your production skills ?

67. Are you engaged in any type of agreement with the different actors in the chain ?

i. Yes

ii. No

If yes ,

Sl No.	Player	Type of agreement

68. Problems related to marketing (rank in the order of importance)

- Lack of fair price
- Lack of fair traders
- Loss during transportation
- Existence of middlemen
- Lack of stability in demand
- High price fluctuations
- Lack of storage facility
- Lack of labour for harvesting
- Others any...specify

69. Advantages and the disadvantages of the agreement ?

70. What do you expect from input / purchase ?

71. Cost of production / hectre ?

72. Cost of production is high in which season ?

73. What do you expect from sales ?

74. Are you satisfied ?

75. Suggestions



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**VALUE CHAIN ANALYSIS OF COWPEA IN NAGALASSERY GRAMA PANCHAYAT OF  
PALAKKAD DISTRICT**

**Interview Schedule for Dealers**

- |                           |   |  |
|---------------------------|---|--|
| 1. Name of the respondent | : |  |
| 2. Address                | : |  |
| 3. Age                    | : | Below 35 years <input type="checkbox"/>        |
|                           |   | Between 35 – 45 years <input type="checkbox"/> |
|                           |   | Between 45 – 55 years <input type="checkbox"/> |
|                           |   | Above 55 years <input type="checkbox"/>        |
| 4. Sex                    | : | Male <input type="checkbox"/>                  |
|                           |   | Female <input type="checkbox"/>                |
| 5. Educational status     | : | Below SSLC <input type="checkbox"/>            |
|                           |   | SSLC <input type="checkbox"/>                  |
|                           |   | Pre – degree <input type="checkbox"/>          |
|                           |   | Graduation <input type="checkbox"/>            |
|                           |   | Post - graduation <input type="checkbox"/>     |

6. Primary occupation : Agriculture   
 Govt employee   
 Business   
 Others

7. Is there any contract between you and farmer ? Y  N

8. If yes , type of contract ? Oral  Written

9. Terms of contract

Period of contract (in year) -----

Commission (in Rs.) -----

Early payment for cultivation

10. How do you procure cowpea ?

i. Through agency

ii. Farmer direct supply

iii. Self initiative

11. At what price you procure cowpea from the farmers ?

Year	Price / Kg
2010	
2011	
2012	

12. Mode of payment

Cash  Credit

13. If credit , Period of credit ?

14. Mode of transportation

Owned vehicle  Rent  Others

15. Are you availing the service of labour for carrying the activities ?

16. Cost of procurement.

Year	Labour cost	Transportation cost
2010		
2011		
2012		

17. Cost of sales

Year	Sales	Transportation cost
2010		
2011		
2012		

18. If yes ,

No: of labourers	Labour cost	Season

19. Who is your target customer ?

20. Whether there is any seasonal variation in the sales ? If yes , specify the season ?

21. Whether you will be able to meet the entire demand of the consumer at required quantity  
Throughout the year ?

22. Will your supplier accept the damaged stock ?

23. Do you have any storage facility ?

24. How many days you can keep the cowpea without deterioration ?

25. What are the factors affecting the demand of cowpea ?

26. Type of marketing risk faced

Unsold produce  Spoilage  Low price  Default in payment

27. Problems in the marketing of cowpea ?

Problems	Rank
High transportation cost	
Lack of storage facility	
Heavy loss during the transportation	
Poor quality of produce	
Non availability of processing facilities	
Loading and unloading	
Others (specify)	



7. Annual family income : Below 50000
- Between 50000 – 1 lakh
- Between 1 – 2 lakh
- Above 3 lakh
8. Family type : Joined
- 

9. Number of members in the family

10. Details of food and nonfood items expenses

Food items	Qty	Value	Total	Non-food items	Qty	Value	Total
1. Cereals				1. Clothing			
2. Pulses				2. Electricity Charges			
3. Fruits				3. Water Charges			
4. Vegetables				4. Telephone			
5. Cooking Oil				5. Fuel			
6. Milk				6. Medicines			
7. Milk pdt				7. Education			
8. Meat ,Fish And Egg				8. Recreation			
9. Others specify				9. Others Specify			

11. Who make purchase decision in your family ?

Sl.No	Particulars	H	W	H & W	C	O
1.	Food items					
2.	Non – food Items					
3.	Consumer Durables					
4.	Savings					
5.	Others					

H – Husband , W – Wife , C – Children and O – Others

12. Who makes the actual purchase ?

Sl.No	Particulars	H	W	H & W	C	O
1.	Food items					
2.	Non food items					
3.	Consumer durables					
4.	Savings					
5.	Others					

H – Husband , W – Wife , C – Children and O – Others

13. Do you consume cowpea ?

1. Yes 2. No

14. If yes , how do you consume cowpea ?

1. Vegetable 2. As a value added product 3. All

15. Do you cultivate cowpea ?

16. Are you aware of value added products of cowpea ?

17. What is the value added products of cowpea that you are aware of?

18. What are the brands of value added cowpea that you are aware of ?

19. Consumption pattern of cowpea and cowpea value added products ?

Sl . No	Product	Source of purchase	Qty of purchase / weak	Price / Kg or Price / Qty
1.	Fresh Cowpea			
2.	Kondattam			
3.	Others			



20. Consumers attitude towards cowpea and its products. Indicate your perception whether it

It is strongly agree , agree , no opinion , disagree and strongly disagree .

Sl . No	Variables	Cow Pea	Kond attam	Others	Rank
1.	The quality of the produce is very good				
2.	The price of the product is reasonable				
3.	The produce is hygienic				
4.	The produce is easily available				
5.	The produce is available at convenient place				
6.	The taste & color of the product is very good				
7.	There is scope for improving the quality				
8.	Others				

21. Suggestions if any

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