

**PAN AFRICAN INSTITUTE FOR DEVELOPMENT -WEST AFRICA  
P.O BOX 133, BUEA, CAMEROON**



**DEPARTMENT OF DEVELOPMENT STUDIES**

**EXAMINING ALLEGATION OF PRODUCER EXPLOITATION IN THE  
MARKETING SYSTEMS OF SELECTED FOOD CROPS IN THE BUEA  
MUNICIPALITY, SOUTH WEST CAMEROON.**

*A Project submitted to the Department of Development Studies of the Pan African Institute for Development West Africa (PAID-WA) Buea in Partial Fulfilment of the Requirements for the Award of the Higher Technical Diploma in Development Studies (HTDDS) with specialisation in Project Planning, Management and Evaluation*

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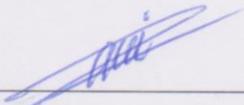
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**BUEA, DECEMBER 2018.**

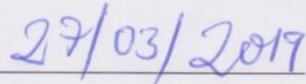
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## DECLARATION

I, **Victor Eyong Ayuk** holder of matriculation number **PAIDWA00398** declare that this project is my original work and has not been presented for a degree in other Universities and that, all the sources of materials used for the thesis have been duly acknowledged.



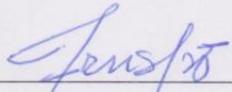
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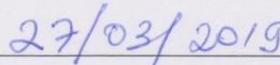
## CERTIFICATION

The project entitled: **Examining allegation of producer exploitation in the marketing systems of selected food crops in the Buea municipality, South West Cameroon** is submitted to the Department of Development Studies of the Pan African Institute for Development – West Africa (PAID-WA) Buea, by **Victor Eyong Ayuk** Registration No. **PAIDWA00398** for the Award of the Higher Technical Diploma in Development Studies (HTDDS) with Specialisation in Project Planning, Management and Evaluation.



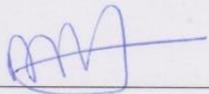
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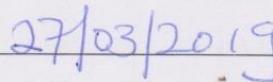
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Date

## **DEDICATION**

This work is dedicated to all my entire family for all the pain they endured and perseverance they bore throughout my studies in Pan African Institute for Development Buea, and of course to my deceased parents, **Martin Ayuk Etchu and Pauline Eyong Ayuk, (RIP)** who would have loved to see me up to this level.

## ACKNOWLEDGEMENTS

This work would not have been successful without the efforts of some personalities to whom I owe special gratitude.

Kind acknowledgement of my supervisor **Mr. Fru Ngang Delvis** who greatly assisted me with the necessary corrections and directives including materials, my colleague lecturers who were very kind and respectful in executing their duty as lecturers and of course the Regional Director of PAIDWA, **Prof. Uwem Essia** whose kind advise, lifestyle and words of encouragement inspired and pushed me back to the classroom after 22yrs. A big thank you to **Maitre Fongoh Peter Mayah** for his support, my sister/mother **Mrs. Lydia Mayah** for her motherly advise and prayers and of course to the **administration of PAIDWA**, Buea for granting me the opportunity to study while executing my duty as staff.

Above all, to the **Almighty Father**, who a few years back lifted me up at the verge of collapse to what I now see today. May His Holy name be praised.

## ABSTRACT

The study seeks to examine allegation of producer exploitation in the marketing systems of selected food crops (cocoyam, plantains, sweet bitter leaf, maize, cassava and banana) in the Buea Municipality. The study specifically assessed the marketing cost and marketing margins of producers, wholesalers and retailers, examine the price spread and producers share of ultimate consumer francs and assess the efficiency of the market. To achieve this, the study adopted a cross-sectional descriptive survey design, whereby structured questionnaires were distributed to 246 conveniently selected farmers, wholesalers and retailers. The quantitative data were analyzed using descriptive statistics such as counts, frequency, mean and standard deviation using SPSS 20 software. Standards techniques were used to assess the marketing cost, margins and price spread while the Acharya's model of was used to assess marketing efficiency. The study found out that wholesalers as compared to producers and retailers have the lowest cost ratio and high profit margin for invariably all the selected food crops. The study also found out that price spread was high for all the products and producers received 56.8%, 32.7%, 47.7%, 40.24%, 53.5% and 36.43% of the consumer francs for cocoyam, plantains, sweet bitter leaf, maize, cassava and banana respectively. Finally, the study indicated the marketing efficiency was moderate for cocoyam (60.7%), maize (62.1%), and cassava (60.9%), almost moderate for sweet bitter leaf (49.3%) and low for plantains (35.1%) banana (41%). The study concluded that there an empirical base for allegations of producer exploitation in the marketing of selected food crops given that producers as compared to wholesalers receive a small share of consumer francs which are further eroded by high cost incurred in marketing the produce. The study recommended that to increase producers share in the consumer price, the government should take proactive steps to reduce various cost streams along the food production and marketing chain.

**Key words:** *Price spread, farmgate markets, Marketing Margins, Price spread, marketing efficiency, food crops, Buea Municipality.*

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

<b>BUCREP</b>	Bureau Central des Recensements et des Etudes de Population
<b>CTE</b>	Cameroon Tea Estate
<b>FAO</b>	Food and Agricultural Organization
<b>FAOSTAT</b>	Food and Agriculture Organization of the United Nations
<b>GDP</b>	Gross Domestic Product
<b>IFAD</b>	International Fund for Agricultural Development
<b>ILO</b>	International Labour Organization
<b>INS</b>	Institut National de la Statistique
<b>PAID-WA</b>	Pan African Institute for Development - West Africa
<b>SAP</b>	Structural Adjustment Program
<b>USAID</b>	United States Agency for International Development

# CHAPTER ONE

## INTRODUCTION

### **1.1 Background to the study**

Agriculture production and marketing constitute the lifeblood of most economies in the developed and developing world ((Balgah and Buchehenrieder, 2011; Abass et al., 2013; United States Department of Agriculture, 2017). This is particularly so in Sub-Saharan Africa, where agriculture provides the primary source of food, income and employment for the majority of the populations. According to FAO (2000), 67% of the populace are involved in agriculture, which accounts for 39.4% of the GDP and 43% of all exports. Over the years, agricultural commodity marketing value chains in developing and transition countries have undergone tremendous changes (Swinnen and Maertens, 2006). In the 1960s, the marketing chains for agricultural and food commodities of a vast share of poor and middle-income countries, covering a large percentage of the world's agricultural areas and farmers, were state-controlled (Swinnen and Maertens, 2006). This was most extreme in the Communist world, spreading from Central Europe to East Asia, where the entire agro-food system was under strict control of the state. This was equally the case in African, Latin American, and South Asian countries. In many of these countries, the state played an important role in agricultural production and marketing in the decades after independence from the colonial power. Governments in Sub-saharan African and South Asia were heavily involved in agricultural marketing and food processing through the creation of marketing boards, government-controlled cooperation and parastatal processing units. These monopolistic institutions determined the price for most basic food and essential cash crops (Swinnen and Maertens, 2006).

However, this system of state intervention and control underwent tremendous changes in the 1980s and 1990s following the liberalization process that swept through most of these countries, (International Fund for Agricultural Development, 2003). These reforms led to the privatization of the state enterprises and the emergence of private sector entities in food production and commercialization, with profound implications for local level operations. This new dispensation contributed to changing the locus of trade and exchange and facilitated the emergence of the middlemen (Birthal et al., 2005). With the quasi-abolition of the marketing board, farmers were no

longer required to aggregate their produce at the local cooperatives for inspections and purchase by the agent of the marketing board. Increasingly middlemen, acting as buying agents for larger corporations met farmers at their farms. This eventually led to the emergence of farmgate or farm-markets in the produce commodity marketing chains in most African countries. Within this liberalized dispensation, price fixing for commodities was supposedly left to the whims and caprices of Adam Smith's invisible hands. But in most states, price fixing became the preserve of powerful buying agents or middlemen of wealthy multi-national corporations with detrimental effects on the producers and low-income farmers.

In Cameroon, agriculture and the exploitation of natural resources are the driving force for the country's economic development (Lambi and Molua, 2009). The sector employs 70 percent of the workforce while providing 42 percent of its GDP and 30 percent of its export revenue. Before the liberalization process in the 1980s and 90s, the government played a dominant role in agricultural markets in Cameroon (Dewbre and De Battisti, 2008). Both the prices farmers received for their output and those they paid for purchased inputs were primarily influenced by the parameters of government procurement, subsidy and trade policies (Dewbre and De Battisti, 2008). Under this state control, agricultural production increased steadily from 1961 to 1990s (FAOSTAT 2012) and the country attained an excellent level of food security, even serving as the food basket for some countries in the central African sub-region (Sasson, 2012). But with the advent of the Structural Adjustment Program (SAP) in the 1990s and the need to downsize government social spending, agriculture production and marketing was liberalized, given way to new participants and pricing dynamics.

While there are divergent opinions, many development observers have opined that this new market dynamics have introduced significant distortions in the food production and marketing chain in the country. Within this current dispensation, it is opined that private traders or middlemen are making excess profits at the expense of rural producers and considerably reducing the efficiency of agricultural marketing systems (Hollier, 1985). They argue that this new pricing dynamics, compounded by other global environmental changes, have constrained the ability of small-holder farmers who constitute 70 % of the farming population in Cameroon (INS 2010) to meet the ever-increasing food need of the burgeoning population (Thornton et al. 2011; Bindraban et al., 2012) and was a critical factor in the 2008 food crisis which led to several weeks of social unrest and civilian casualties in Cameroon's main cities (Lagi et al. 2011; Tiltonell et al., 2012).

It was in an attempt to assess these allegations of producer exploitation that this study on the pricing dynamics and efficiency of markets for some widely produced and consumed food crops in the Buea Municipality was undertaken. The study is predicated on the fact that food crops pass through several agencies before it reaches the final consumer and that each intermediary is bound to incur a cost for his services performed and also expects a profit margin in that transaction. Therefore it is worthwhile to examine as to what the producer and other intermediaries receive a share of the consumer franc paid by the consumer. It is on the bases of the preceding that we can confidently establish grounds for producer exploitation and efficiency of the marketing systems.

### **1.2 Statement of the problem**

As an essential administrative and educational hub in the South West Region of Cameroon, the Buea municipality is confronted with a rapidly rising population (INS, 2010). In spite of her rich volcanic soils, suitable for the cultivation of a variety of food crops (Manga et al, 2014), favourable climatic condition (Kimengsi and Nkwainguh, 2013) and readily available manpower (Business in Cameroon, 2018), ensuring the future food security of this increasingly burgeoning populace from local production constitute a veritable challenge. If remedial measures are not taken, most households in the area will spiral into the food insecurity zones in the future. While some have linked the inability of local producers to meet the food need of the population to food crops pest and disease (Tandi et al., 2014), technical inefficiency of farmers (Tabe-Ojong and Molua, 2017), poor cultural and rudimentary practices of farmers (Ambebe, 2010), climate change and variability (Mbom, 2009) and rapid conversion of agricultural land to settlements (Kimengsi et al, 2016), very few studies have looked at the price incentives for local farmers and the marketing efficiency for selected food chains. This perspective is worth considering given that attractive farm gate prices for food crops, among other things, have been shown to make farming a lucrative livelihood strategy, increase acreage (farmland under cultivation) and consequentially increased local production in other areas (Hollier, 1985; Abdullahi and Igbekele, 2004). However, anecdotal evidence opined that in Buea, middle-men absorb a significant portion of income in the food production value chain and leave the farmers with no price incentives to increase or even maintain local production, thereby reducing the efficiency of the market. However, very few empirical studies have been carried out to determine marketing margins, the proportion of the consumer price that various actors in the value chain receive and consequently the effectiveness of the marketing regarding incentives for participation to

the different market actors. This price transmission analyses can effectively aid in asserting the (none) veracity of allegations of producer exploitation in the locality.

### **1.3 Objective of the study**

#### **1.3.1 Main Objective**

The main objective of the study is to examine allegation of producer exploitation in the marketing systems of selected food crops (cocoyam, plantains, sweet bitter leaf, maize, cassava and banana) in the Buea Municipality.

#### **1.3.2 Specific Objectives**

The specific objectives of the study included;

- a. To estimate the marketing margin of selected food crops (cocoyam, plantains, sweet bitter leaf, maize, cassava and banana) along the producer-wholesaler-retail value chain
- b. To analyze the farmgate-wholesale-retail price spread and determinants for selected food crops
- c. To evaluate the marketing efficiency for selected food crops

### **1.4 Significance of the Study**

The findings of the study will be significant at three levels, viz local, policy and academic. At the local level, the results of the study will inform the farmers of the price margins of selected crops for different market participants and enable them to negotiate the prices of their products accordingly.

At the policy level, it will allow local, regional and national policymakers to craft price policies that uphold fairness in food crop market and incentivise farmers to increase or maintain domestic production.

At the academic level, the findings of the study will not only serve as secondary data for other future research but will equally ask questions whose answers can help expand extant literature.

### **1.5 The scope of the study**

Geographically, the study was limited to six villages in the Buea Sub-division, including Bwassa, Likombe, Small Soppo Tole, Bova and Bonakanda villages respectively.

Thematically, the study looked at retail and wholesale prices of selected crops, determinants of farmgate prices, price margins, price-spread and market efficiency.

The study was carried out between May 2016 and August 2018.

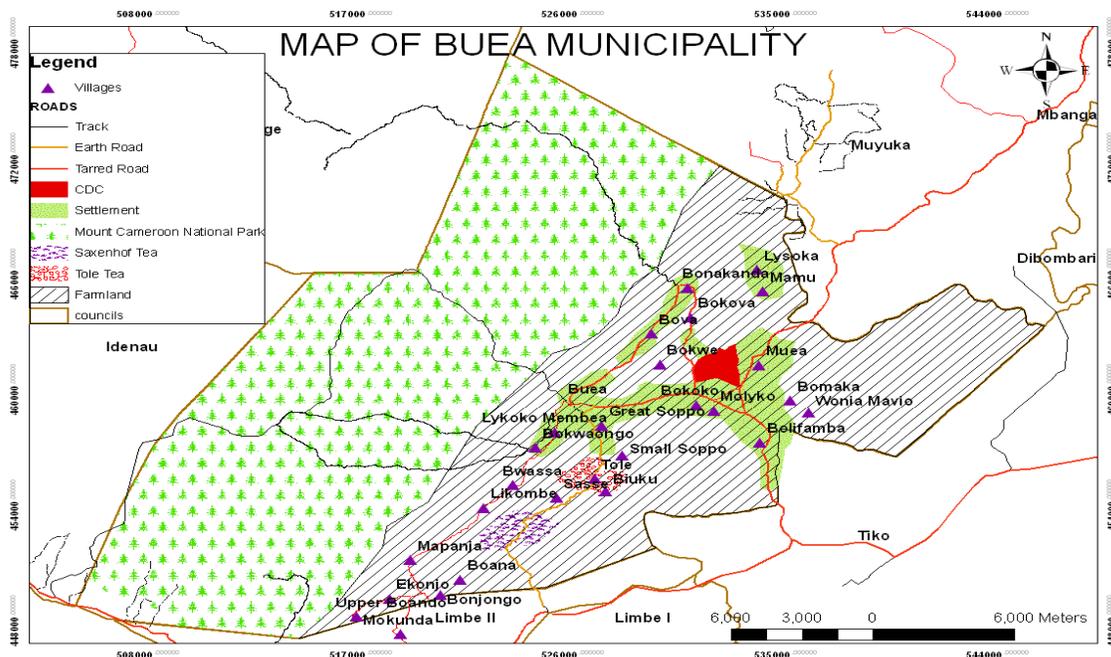
## 1.6 Study Area

The Buea Municipality is the Sub Divisional headquarter of Buea and the South West Regional headquarter of Cameroon (Figure 1.1).

It has a surface area of 870 Sq.km, 67 villages, four distinct identified urban spaces as per the outlined criteria (Buea Station, Soppo, Molyko/Mile 17 and Muea). It is a highly complex community caught between a blend of urban, semi-urban, rural and traditional settings.

### Vegetation:

It has a distinct biophysical environment surrounded by an evergreen tropical ecosystem with a high variety of biodiversity. Some parts of the mountain slopes have rare species of plants and animal found nowhere else in the world such as the unique medicinal.



*Figure 1.1 Map of Buea Municipality (Adapted from United Councils and Cities of Cameroon)*

### Source:

Prunus Africana, and animal species living only under particular conditions, which can be met here. From thick vegetation forest, secondary forest, shrubs to savanna towards the peak of the mountain.

Accessibility to villages in this area is through the roads. Most of the communities are located on the slopes of the hill.

Volcanic activity has dramatically altered and influenced the biophysical environment. The exploitation of the primary forests have turned them into secondary forests and in some cases farms or habitation in almost all open and nearby land in the villages and urban spaces.

These intensive activities have caused and continue to produce environmental hazards to soils, water sources, climate and biodiversity.

### **Climate:**

The conditions here are generally the tropical rainforest climate with rainfall almost during the entire year. However, average monthly High/Low Temperature for these urban spaces ranges from 23°C low to 32°C high. This temperature increases as one move downwards from Buea station to Muea. Several factors are behind this. Firstly, the principle of “*higher one goes the colder it becomes*” applies as the town is on the slopes of the mountain. Secondly, some areas have higher population intensity, activity and urbanization than others. Molyko, for example, has more infrastructures which reduce circulation and exchange of air.

### **Soil:**

The area is composed of undulating high and low lands with many rocks and gravels due to volcanic eruptions. The soil type consists of basalts and is as a result of the first volcanic activity in the Fako Mountain area which occurred in the Cretaceous system. These soils have been weathered and partly covered by more recent deposits, thus the soils are black and in these areas are well drained due to the generally hilly nature of the terrain and the fact that they are free-draining.

The soil is very rich in nutrients and allows the cultivation of various crops such as tomatoes, cabbage, okro, pepper, corn, cocoyam, yams, cassava, plantains, beans, vegetables and even some cash crops such as palm trees, cocoa and bananas. The soil and climate are very supportive of vegetation and agriculture though in some areas digging is difficult due to the cruel nature of the rocks. The vegetation is generally green almost throughout the year with fewer trees in areas of high concentration of houses. It is rare to move 200m without spotting green grass, shrubs, and fruit trees. The area is composed of undulating high and low lands with many rocks and gravels due to volcanic eruptions. The soil is very rich in nutrients and allows the cultivation of various crops such as

tomatoes, cabbage, okro, pepper, corn, cocoyam, yams, cassava, plantains, beans, vegetables and even some cash crops such as palm trees, cocoa and bananas.

### **Human Population and Activities:**

Buea has an estimated population of above 200.000 inhabitants (BUCREP, 2005) constituting essentially of the Bakweris (the indigenes) in the villages and a highly cosmopolitan community within the urban space putting the indigenes at a minority.

Much of the agriculture is in the form of small-scale farming of food crops and fruits that supply not only the local market but also neighbouring countries like Gabon and Equatorial Guinea. The leading company, the Cameroon Tea Estate (CTE) is engaged in industrial cultivation: grows and processes tea in Tole. The economy is also dominated by petty trade and commerce

### **1.7 Organization of the study**

The work is divided into five chapters. The first chapter will look at the introduction consisting of background to the study, objectives, significance, scope, study area and definition of key terms. Chapter 2 will look at literature review and theoretical framework and will consist of conceptual review, empirical review, conceptual framework and gaps identified in the literature. Chapter three will look at the methodology, and it will consist of model specification, study design, study population and sampling technique, data collection and instrumentation, analytical approach and ethical consideration. Chapter four will look at the presentation of data and analyses while chapter five will look at the conclusion, a summary of findings and recommendation.

### **1.8 Definition of terms**

#### **a. Markets**

Market can be defined as a tangible place where forces of demand and supply operations, and where buyers and sellers interact and negotiate on the exchange/ trade goods and services, or inform the marketing margin of a product is the difference between what a company pays for the product and what it charges for the product of contracts and instruments for conducting transactions like money, and/or barter system. (BusinessDictionary.com).

For this study, a market will be defined as a physical location where buyers and sellers of agricultural produce meet for the exchange.

### **b. Farmgate markets**

Farm gate markets can be described as a place whereby farmers meet to sell their agricultural products – directly to consumers, or restaurants, caterers and to independent retailers (World Bank, 2006).

For this study, farm gate markets is a designated location where farmers sell foods directly to consumers or wholesale dealers at particular days.

### **c. Marketing margins**

Marketing margin is the total of the profits of various market functionaries involved in moving the product from the initial point of production until it reaches the ultimate consumer. (Subhasis et al., 2011).

For this study, the marketing margin is the differences between the cost producing and marketing a food crop and the sales price.

### **d. Price spread**

According to Aguinaldo et al. (2013), price spread is the difference in the value of a product at two levels in the marketing chain and reflects the margins and costs incurred at each node in the marketing chain.

In this study, price-spread is the difference between the actual price received by the producers, the price paid by the consumers, costs incurred and margins earned by the various market intermediaries in the process of marketing of banana.

### **a. Marketing efficiency**

According to Kohls and Uhl (1980), marketing efficiency is the ratio of market output (satisfaction) to marketing input (cost of resources). Jasdandwalla (1960), has defined marketing as the effectiveness or competence with which a market structure performs its designated function.

For this study, marketing efficiency will be defined as the degree to which all marketing participants are justly rewarded for their efforts.

## CHAPTER TWO

### LITERATURE REVIEW AND THEORETICAL FRAMEWORK

#### 2.1 Literature Review

##### 2.1.1 Conceptual Review

##### 2.1.1.1 Concept of market

The definitions of the market can be classified into three by the emphasis they were given. The first one emphasizes the presence of a public place for the transaction. The word market is copied from a Latin word 'Mercatus' to denote a marketplace thus meaning merchandise, trade or a place where business is conducted (Gravin, 1929). Conferring to Jevons, *"the central point of market is a public exchange mart or auction rooms, where the traders agree to meet to transact business..... the traders may be spread over a whole town or region or country, and yet make a market, if they are by means of fairs, meetings, published price lists, the post office or otherwise in close communication with each other"* (Quoted from Marshall, 1961). Cochrane (1957) sees that market is some sphere or space, where the forces of demand and supply were at work, to determine or adjust price since the ownership of some quantity of a good, or service was transported and certain physical and institutional arrangements might be in confirmation.

The second category undermines the need for any specific location or space. According to Cournot (1971), *"not any particular market place in which things are bought and sold. But the whole of any region in which buyers and sellers are in such free intercourse with one another that the prices of the same goods tend to equality easily and quickly"*. Bliss and Stern (1982) preached that market refers to the exchange of the services of factors take place and the arrangements in force for establishing that exchange. There is no implication that the market is in any sense a formal one with a definite location; still is there any suggestion that the market is perfect or competitive. According to Stonier and Hague (1982), market is *"any organization whereby the buyers and contact with one another to buy and sell some commodity. It is not that every member of the market may be in contact with every other one; the contact may be indirect"* (Dorfman, 1979). Though there are some differences in defining the term market among economists, one can observe that the basic requirement for a market is that trading or exchange should take place between buyers and sellers.

### **2.1.1.2. Farmgate market**

Farm gate markets can be described as a place whereby farmers meet to sell their agricultural products directly to consumers, or restaurants, caterers and to independent retailers. This is mostly foodstuff. It is a common type of market found throughout in small farming areas and accounts for a vast amount of sales as far as food is a concern.

Farm gate sales is a marketing strategy embarked on by the manufacturer near the location where the product is produced. Clients come to the production unit or farm to buy produce and, in some cases, pick the produce themselves. Examples include the sale of vegetables from a producer's garden, maize is sometimes harvested by the buyer from the seller's farm, this applies to other items like okro, beans etc. There is no limit to the type of things that can be marketed in this manner as long as there are willing consumers.

### **2.1.1.3 Marketing margins**

In the marketing of agricultural commodities, the difference between the price paid by the customer and the amount received by the producer for an equal quantity of farm produce is time and again known as a farm-retail spread or price spread. Sometimes, this is labelled as marketing margin.

#### **The total margin includes:**

- (i) The cost involved in moving the product from the point of manufacture to the point of consumption, i.e., the cost of performing the several marketing functions and of operating a number of agencies; and
- (ii) Profits of the several market functionaries involved in moving the produce from the original point of production till it extends to the ultimate consumer. The total value of the marketing margin varies from channel to channel, market to market and time to time.

There are two concepts of marketing margins.

#### **(i) Concurrent Margins**

These refer to the difference between the prices prevalent at successive stages of marketing at a given point of time. For instance, the difference between the farmer's selling price and retail price

on a precise date is the total concurrent margin. Coexisting margins do not take into account the time that lapses between the buying and sale of the produce.

### **(ii) Lagged Margins**

A lagged margin is the variance between the price received by a seller at a particular stage of marketing and the price paid by him at the previous stage of marketing during a former period. The interval between the two points denotes the period for which the seller has held the produce. The lagged margin concept is a better idea because it takes into account the time that lapses between the purchase and sale by a party and between the sale by the farmer and the procurement by the consumer.

The method of calculating lagged margins is based on the same principle as that involved in the first in-first out the method of accounting. Nevertheless, it is hard to obtain data on time lags between purchase and sale intending to maintain an unceasing series of marketing margins.

### **Importance of Marketing Margins**

Studies on marketing margins and costs are important, for they reveal many facets of marketing and the price structure, as well as the effectiveness of the system.

i. The magnitude of the marketing margins comparative to the price of the product shows the capability or otherwise of the marketing system. It refers to the efficiency of the intermediaries between the producer and the customer in respect of the services rendered and the payment received by them. While comparing the value of the marketing system by means of marketing margins over space or time, the variance in the value added to the product through several services/functions is taken into account;

ii. Such studies help in approximating the overall cost incurred on the marketing process about the price received by the manufacturer and the price paid by the customer. The cost incurred by each agency in diverse channels and the share of each agency in the value have been revealed. This awareness ultimately aids us to identify the reasons for high marketing costs and the likely ways of reducing them

iii. The awareness of marketing margins aids us to formulate and implement suitable price and marketing policies. Extreme margins point to the need for public intervention in the marketing system.

### **Estimation of Marketing Margins**

Steady monitoring of marketing margins at regional levels is important for the formulation and successful application of marketing and price policies. A study of marketing margins should comprise an estimation of the manufacturers' share in the customer's rupee, the cost of marketing functions and the margins of intermediaries. Marketing margins and costs differ from product to product and depend on the amount of processing involved and the market structure for the handling of the product. Even for the same product, the margin may vary from place to place and time to time. Some factors, such as the technique of assembling, the location of the market and the mode of transportation, influence marketing costs and margins. The technique of sale, weighment and other amenities, too, affect the marketing costs. Because of the absence of standard grading in agricultural commodities, it is difficult to make valid comparisons of price data. Satisfactory precautions have, therefore, to be taken when comparing marketing margins for commodities under dissimilar situations. In spite of these complications, numerous studies have been conducted in India to study marketing margins and costs meaning to measuring the farmers' share in the consumer's rupee and to suggesting measures for improvements in the marketing system. These studies have used diverse approaches, and vary considerably in their depth. Three approaches are usually used in the computation of marketing margins and costs.

#### **i. Lot Method**

A precise lot or package is selected and chased through the marketing system until it extends to the ultimate customer. The cost and margin involved at each stage are measured. The problems or limitations of this method are:

- a. It is challenging to chase the movement of a lot from the manufacturer to the ultimate consumer.
- b. Most of the lots lose their individuality during the process of marketing because either the product gets processed or the lot gets mixed up with other lots.

c. There is no guarantee that the lot selected is representative of the entire product. This technique is suitable for such perishable farm produces like fruits, vegetables, and milk because the lag between the time the product enters the marketing system and time of its final consumption is minimal.

## ii. Sum of Average Gross Margins Method

The average gross margin at each successive level of marketing is worked out by dividing the difference of the money value of sales and purchase by the number of units of the commodity conducted by a particular agency. The average gross margins of all the intermediaries are additional to get the overall marketing margin as well as the break-up of the consumer's rupee. The following formula may be used to work out the total marketing margins:

$$M_t = \sum_{i=1}^n \left( \frac{S_i - P_i}{Q_i} \right)$$

$M_T$  = Total marketing margin

$S_i$  = Sale value of a product for  $i$ th firm

$P_i$  = Purchase value of a product paid by the  $i$ th firm

$Q_i$  = Quantity of the product handled by  $i$ th firm  $i = 1, 2 \dots n$ , (number of firm involved in the marketing channel)

This method requires considerable effort in the location and examination of the records kept by the intermediaries. The main difficulties in using this method are:

a. Traders may not allow access to their account books. It would then be difficult to obtain complete and accurate information. Moreover, some traders often make manipulated entries in their account books to evade sales tax and income tax; and b. This method necessitates adjustment for the difference between the quantities purchased and sold because a part of the product is wasted during handling.

## i. Comparison of Prices at Successive Levels of Marketing

Under this method, prices at successive stages of marketing at the producer's, wholesaler's and retailer's levels – are compared. The difference is taken as the gross margin. The margin of an

intermediary is worked out by deducting the ascertainable costs from the gross margin earned by that intermediary. This method is appropriate when the objective is to study the movements of marketing costs and margins about prices and cost indices. The main difficulties encountered in the use of this method are:

- a. Representative and comparable series of rates for the same quality of successive stages of marketing are not readily available for all the products;
- b. Adjustment for a loss in the quality of the product at various stages of marketing due to wastage and spoilage in processing and handling is difficult;
- c. The price quotation may not cover the price of a product of comparable quality; and
- d. The time lag between the performances of various marketing operations is not adequately accounted for.

Various measures for the computation of marketing costs and margins, and the procedures followed have been given in the paragraphs that follow.

### **Producer's Price**

This is the net price received by the farmer at the time of the first sale. This is equal to the wholesale price at the primary assembling centre, minus the farmer bears the charges in selling his produce. If PA is the wholesale price in the primary assembling market and CF is the marketing cost incurred by the farmer, the producer's price (PF) may be worked out as follows:

$$P_F = P_A - C_F$$

### **Producer's Share in the Consumer's Price**

It is the price received by the farmer expressed as a percentage of the retail price (i.e., the price paid by the consumer). If Pr is the retail price, the producer's share in the consumer's rupee (Ps) may be expressed as follows:

$$P_S = (P_F \div P_r) \times 100$$

## Marketing Margin of a Middleman

This is the difference between the total payments (cost + purchase price) and receipts (sale price) of the middleman (with agency). Three alternative measures may be used.

(a) The absolute margin of the  $i^{\text{th}}$  middleman ( $A_{mi}$ )

$$A_{mi} = P_{Ri} - (P_{Pi} + C_{mi})$$

(a) Percentage margin of  $i^{\text{th}}$  middleman ( $P_{mi}$ )

$$P_{mi} = \frac{P_{Ri} - (P_{Pi} + C_{mi})}{P_{Ri}}$$

(b) Percentage mark-up of the  $i^{\text{th}}$  middleman ( $M_i$ )

$$(c) M_i = \frac{P_{Ri} - (P_{Pi} + C_{mi})}{P_{Ri}}$$

where

$P_{Ri}$  = Total value of receipts per unit (sale price)

$P_{pi}$  = Purchase value of goods per unit (purchase price)

$C_{mi}$  = Cost incurred on marketing per unit

The margin thus calculated include the profit of the middleman and the returns which accrue to him for storage, the interest on capital and overhead, and establishment expenditure

## Total Cost of Marketing

The total cost, incurred on marketing either in cash or in kind by the producer-seller and by the various intermediaries involved in the sale and purchase of the commodity till the commodity reaches the ultimate consumer, may be computed as follows:

$$C = CF + C_{m1} + C_{m2} + C_{m3} + \dots + C_{mn}$$

where  $C$  = Total cost of marketing of the commodity,

$CF$  = Cost paid by the producer from the time the product leaves the farm till he sells it, and

$C_{mi}$  = Cost incurred by the  $i$ th middleman in the process of buying and selling the product.

Some of the costs are linked with the quantity marketed, and some are connected with the value of the commodity. The former is a fixed charge, while the latter is a variable one. The actual rates of costs are converted regarding the weight unit or Rs.100 worth of

#### **2.1.1.4 Price spread**

Price spread is the difference between the actual price received by the producers and the amount paid by the consumers.

#### **2.1.1.5 Marketing Efficiency**

Marketing efficiency is considered to be a pre-requisite for the prompt delivery of goods. Quick delivery of product at a reasonable price is possible only if the market works competitively. The competitive mechanism is possible only when the market agents are free to exercise their actions. An efficient marketing system implies that price spread or marketing margin is somewhat less. In market integration terminology, prices in spatially separated markets will get differed only by transaction costs among markets. Lower price spread also implies that both consumers and producers are gaining from affordable price and reasonable profit. Hence, an efficient marketing system presupposes the existence of market integration. 5 4 Experts have viewed the concept of marketing efficiency in different ways. A brief look at the views can be presented under three heads. They are (i) Maximization of the input-output ratio as a resemblance of marketing efficiency. (ii) Competition or effective market structure as an indicator of marketing efficiency and (iii) Lower price spread or marketing margin as a condition of marketing efficiency. The examination of these approaches are presented below:

##### **i The maximisation of the input-output ratio as a resemblance of marketing efficiency**

Kohls' (1967), analysis was by optimising the behaviour of economic agents. It is the in the maximization of input-output ratio, the output being consumer's satisfaction and input as labour, capital and management that marketing firms employed in the productive process.

## **ii Competition or effective market structure as an indicator of marketing efficiency**

According to Clark (1954) the three components of effectiveness, cost and their effect on performance on marketing functions and services which in turn affect production and consumption constitute marketing efficiency. Jasdanwalla (1966), opined that marketing efficiency signifies the effectiveness or competence with which market structure performs its designated functions.

## **iii. Lower price spread or marketing margin as a condition of marketing efficiency.**

The higher the price spread, the higher the inefficiency in the marketing system and a minimum price spread denotes an efficient marketing system. One can consider a marketing system efficient if it performs the following functions - observes Singh et al. (1987)

## **iv An adequate marketable surplus to be ensured.**

## **v Prevalence of lower price spread.**

## **Accessibility of agricultural inputs to be ensured to farmers at a reasonable price.**

On the whole, there is no unanimity of opinion on the concept of marketing efficiency. Some are emphasizing to raise output by lowering input. Here no specific analysis of price structure is made. In the second view, importance is given to the elimination of wasteful marketing costs or competence of market structure. As per the third view, price spread is considered as an indicator of marketing efficiency, and it is more realistic one. A regulated market with low marketing costs and marketing margin is said to be an efficient one. Marketing efficiency or the integrated marketing system also depends on the market structure, the nature of the commodity and the socio-political system. Price stability can also be considered as an indicator of an efficient market system. Hence, it can be cited that several factors determine marketing efficiency.

## **Determinants of Marketing Efficiency**

Economic efficiency and technical efficiency are the two determinants of marketing efficiency. They are explained below:

### **Pricing, Trading or Economic Efficiency:**

Usually, economic efficiency is a matter to be considered to enhance the conditions for competition and pricing of the commodity in a market. Chahal and Gill (1991), observe that pricing or economic efficiency either relates to functional deficiencies or the degree of competition and monopoly and economic structure existing within the marketing system. To them in an efficiently operating market, prices will be related in the following manner. Prices should only differ (due to transportation costs) between geographic areas of a country,

The amount of the storable commodity at one point in time should not exceed price in a previous period by more than the cost of storage plus a reasonable profit, and

The price of the processed products should only exceed the price of the unprocessed product by processing costs plus a reasonable profit.

According to Lipsey and Harbury (1992), economic efficiency has two components. They are (i) Productive efficiency, and (ii) Allocative efficiency.

Productive efficiency is a situation when it is not possible to produce more of anyone good without producing less of any other good.

Allocative efficiency involves choosing between productively efficient bundles. Resources are said to be allocatively efficient when it is not possible to produce a combination of goods different from that currently being produced, which will allow any one person to be made better off without making at least one other person worse off. Thus, as the term denotes it concerns matters related to trading or pricing to enrich the degree of competition. When there is an enrichment in the degree of competition, the possibility of price spread will be lower. Lower price spread ensures remunerative and affordable prices to various economic agents. Hence, valid measures of pricing efficiency ensure an efficient market system.

### **Operational, Technical or Organizational Efficiency**

The emphasis of operational efficiency is on the cost of marketing inputs by keeping the cost of physical operations to the least possible. Brunk (1950), held that one of the primary purposes of

marketing research is to find ways of increasing efficiency in the physical handling and processing of good. Lau and Yotopoulos (1971), defined technical competence as "a firm is considered more technically efficient than another if, given the same quantity of measurable inputs, it consistently produces a larger output". To quote Henderson and Quandt (1971), the production function differs from the technology in that it presupposes technical efficiency and states the maximum output attainable from every possible input combination. The best utilization of every particular input combination is a technical, not an economic problem.

All these definitions are unanimous in pointing out that a technically efficient system should ensure least cost combination. And an ideal marketing system emanates from optimal marketing efficiency resulting from operational and economic efficiency. Hence. A market through economic and organizational efficiency tries to function effectively. If the regulatory and pricing structure smoothens the free flow of market information, it will lead to an integrated market. Hence, marketing efficiency is concerned with the enhancement of utility with the most efficient utilization of scarce resources available in the marketing system; which is the basic principle of economics. Measurement of Marketing Efficiency - Criteria Usually in the literature two criteria can be used to measure marketing effectiveness. One is price spread, and the other is market integration.

Price spread is denoted as the difference between the price received by the producer and the amount paid by the consumers for a commodity at a point of time. Lesser the difference; more efficient is the market system. If the intermediaries charge just the average transaction costs, consumers in the central and peripheral markets can get the article almost at the same price. If this is realizable, it is a situation of an efficient marketing system, or it characterizes an integrated market.

### **Empirical Assessment of Marketing Efficiency**

Some simple measures to assess the efficiency of the marketing system for agricultural commodities are:

#### **The ratio of Output to Input (conventional method)**

Conceptually, the efficiency of any activity or process is defined as the ratio of output to input. If 'O' and 'I' are respectively output and input of the marketing system and 'E' is the index of marketing efficiency; then

$$E = O/I \times 100$$

A higher value of E denotes a higher level of efficiency and vice versa. When applied in the area of marketing, the output is the 'value added' by the marketing system and 'input is the real cost of marketing (including some fair margins of intermediaries)'. The measurement of 'value added' is not easy. The difference in the price at the farm level (price received by the farmer) and that at the retail level (price paid by the consumers) may be used to measure the 'value added', but it has limitations mainly because of market imperfections. Assuming that the degree of fault is pervasive, this measure has been used to compare the marketing efficiency of two spatially separated markets,

### **Shepherds Method**

Shepherd has suggested that the ratio of the total value of goods marketed to the marketing cost may be used as a measure of efficiency. The higher the rate, the higher the energy and vice versa. This method eliminates the problem of measurement of value added.

Shepherd's formula does not explicitly take into account the net margins retained by the intermediaries and net price received by the farmers in assessing the marketing efficiency. Shepherd's method assumes that marketing cost itself includes some good margins of intermediaries. But if the margins retained by the intermediaries are excessive, it is argued that these should not be treated as a part of marketing cost.

$$\text{Formula: } ME = V/I - 1$$

Where

ME = Marketing Efficiency

V = Value of goods purchased (Consumer's price)

I = Total Marketing Cost (i.e., Costs + Margins)

Limitation of this method is that it does not take into consideration the price received by the farmer.

## **Acharya's Method**

An ideal measure of marketing efficiency, particularly for comparing the effectiveness of alternate markets/channels, should be such which takes into account all the following:

- a) Total marketing costs (MC)
- b) Net marketing margins (MM)
- c) Prices received by the farmer (FP)
- d) Amounts paid by the consumer (RP)

Further, the measure should reflect the following relationship between each of these variables and the marketing efficiency (the assumption of "other things remaining the same" is implicit)

Higher the (a), lower the efficiency More upper the (b), lower the ability Higher the (c), higher the efficiency

### **Higher the (d), lower the efficiency**

As there is an exact relationship among four variables, i.e.,  $a+b+c=d$ , any three of these could be used to arrive at a measure for comparing the marketing efficiency. The following modified measure is, therefore, being suggested by Acharya.

$$\text{MME} = \text{FP} / (\text{MC} + \text{MM})$$

Where

MME is the modified measure of marketing efficiency and MC and

MM are marketing costs and marketing margins respectively.

Acharya's modified method takes care of the limitations of the above two methods. In this method, it has been emphasized that the farmer's share in consumer's income is a measure of marketing efficiency.

Acharya's measure of marketing efficiency can also be stated as:

$$\text{MME} = [\text{RP} / (\text{MC} + \text{MM})] - 1 \text{ because, } \text{RP} = \text{FP} + \text{MC} + \text{MM}.$$

## **2.1.2 Empirical Review**

### **2.1.2.1 Marketing cost and marketing margin of selected food crops along the farmgate-whole-retain chain**

Chavan et al. (2009), analyzed the marketing margins and marketing costs for apple and grape in Parbhani market of Maharashtra state for the year 2005. They found that the cost per quintal of marketing apple was Rs. 291.10 while it was Rs. 203.07 for the grape. They indicated that the marketing margin of commission agent was Rs. 106.67 for apple and Rs. 105.15 for the grape. They reported that in the case of a retailer, marketing margin was Rs. 383.58 for apple and Rs. 312.49 for the grape.

In a study carried out by Sowjanya et al. (2016), found out that Marketing costs borne by producer, wholesaler and retailer in channel II were 135.35%, 97.14% and 115.28% respectively. In channel III marketing costs incurred by producer and retailer were 62.86% and 75.56% respectively.

The study was undertaken by Subhasis et al. (2011), to analyze the marketing costs and marketing margins major vegetables crops in Coastal Districts of West Bengal. The study found that total marketing cost was estimated to be hovering around 20% and the overall marketing margin was in the range of 34-45 % under the specified commodities.

Otteh and Njoku (2014), examined the marketing efficiency of packaged water and its determinants. The study employed purposive and multistage sampling technique in the selection of location and respondents respectively from whom information was elicited. The result showed that marketing cost and marketing margin were higher in an urban area, which implies that marketer in semi-urban areas was operating below optimum efficiency levels.

A study by Emam (2011), in a survey in Khartoum State central markets revealed that wholesalers generally got higher marketing margins than retailers except for Khartoum market, where retailers got higher marketing margins than wholesalers. By the same sequence of marketing margins, net marketing margins followed at the wholesaler.

Bhat et al. (2015), made a detailed analysis of marketing costs and price spread of citrus fruit in the Samba district. The study found out that the average per quintal marketing cost at producers' level varied to the extent of Rs.438.65, Rs.264.00 and Rs.226.67 per quintal for channel I, II and III, respectively. The average per quintal marketing cost borne by the retailer was found to be Rs.30.95 and Rs.19.40 in the channel I and II, respectively whereas in channel III whole of the marketing cost, i.e., Rs. 226.67 was borne by the producer as there was the direct marketing of produce.

### **2.1.2.2. Price spread and determinants for selected food crops**

In a study carried out by Sowjanya et al. (2016), price spread was high in the channel I compared to channel II and III. Producers share in consumer's rupee was higher in channel III. Channel III was more efficient compared to channel I and II.

Abdulkadri and Ajibefun (2004), used the relative price spread model to analyze the farm-retail spread for pineapple, pawpaw and watermelon in Jamaica. Our findings suggest that price increase in the retail market is not being passed down to pineapple and pawpaw farmers and only marginally to watermelon farmers.

Bhat et al. (2015), made a detailed analysis of marketing costs and price spread of citrus fruit in the Samba district. The study found out that as far as price spread is a concern, the per quintal net price received by the producer was about Rs.945.90, Rs.1036.00 and Rs.1073.33 which was about 44.00 per cent, 51.29 per cent and 82.56 per cent of the amount paid by the consumer for channel I, II and III, respectively. A comparison of different channels thus showed that producers' share in the consumers' rupee was the highest in case of channel III as compared to other channels. Where in the consumer also paid the lowest price, i.e., Rs.1300.00 per quintal in channel III as compared to Rs.2150.00 per quintal and Rs.2020.00 per quintal in the channel I and II, respectively which revealed that direct sale from producer to ultimate consumer was beneficial for both producer and consumer. The channel-III with marketing efficiency 4.74 was most efficient followed by Channel-II (1.05) and channel-I (0.79).

Shankar and Singh (2016) analyze the price spread for Cauliflower in S. Chotanagpur of Jharkhand. Cluster sampling techniques were used to select the sample villages and respondents. Personal interview of respondents collected primary data. The marketed surplus of the medium category of

farms has a slightly higher surplus than marginal, large and small groups of farms. Their relative proportion was 94.84 per cent, 94.51 per cent, 94.49 per cent and 94.48 per cent respectively of the total production. The share of the producer in consumer rupee is high in the channel where there is less number of intermediaries. The marketing cost incurred by the wholesaler in different channels were estimated 5.01 per cent, 6.39 per cent and 7.88 per cent of the consumer price respectively and their corresponding net margins were 9.68 per cent, 9.61 per cent and 10.23 per cent of the amount paid by the consumer.

Misginaw (2011), studied the efficiency of cattle marketing in the rural areas of the Hadiya zone of SNNPR, Ethiopia. The marketing margin analysis manifested that, butchers incurred the highest cost of 94 Birr per head followed by itinerant and amateur traders while rural collectors made the most significant profit (542 Birr per head) followed by butchers (506 Birr per head). The producer's share was found largest in the direct sale to consumer followed by sales directly to butchers and butchers through rural collectors.

### **2.1.2.3 Assessment of marketing efficiency in food crops**

Gunwant et al. (2012) analysed the production and marketing practices of vegetables in Nainital and U.S. Nagar districts of Uttarakhand state for the year 2010. The index of marketing efficiency for Nainital district was found out to be 0.76, 0.90 and 0.96 for channel I, II and III respectively whereas, in U.S. Nagar district, the index of marketing efficiency was found out to be 0.78, 0.87 and 1.02 for channel I, II and III, respectively.

Rupali and Gyan (2010) evaluated the marketing efficiency of vegetables in Indore district of Madhya Pradesh for the year 2008. They revealed that the marketable surplus of tomato, potato and cauliflower was observed to be 90 per cent, 89 per cent and 95.50 per cent, respectively. They found that large farmers sold a high proportion of their produce to commission agents/wholesalers.

Bhat and Aara (2012) evaluated the marketing efficiency of apple in Kashmir. The data was collected for the year 2010. The study reported that in marketing channel I, the net returns received by the grower were 51.38 per cent, 35.41 per cent and 50.64 per cent for Delicious apple, Maharaji apple and American apple, respectively while in marketing channel II, the net returns received by the grower were 48.73 per cent, 48.03 per cent and 51.06 per cent for Delicious apple, Maharaji apple

and American apple, respectively. In marketing channel III, the net returns received by the grower were 87.41 per cent, 61.86 per cent and 76.69 per cent for Delicious apple, Maharaji apple, and American apple, respectively. They reported that the channel III had less price spread compared to marketing channels I and II which signified that the marketing channel III was much more efficient comparatively.

Dastagiri et al. (2013) examined the market efficiency of vegetable crops in India. They found that the most common marketing channel for the majority of the crops was Producer – Wholesaler – Retailer – Consumer. They reported that the producer's share in consumer rupee was highest in Punjab, Tamil Nadu and Manipur compared to Andhra Pradesh, West Bengal and Rajasthan. It varied from 46 per cent to 74 per cent in Andhra Pradesh, 26 to 60 per cent in West Bengal, 33 to 60 per cent in Rajasthan, 85 to 88 per cent in Manipur, 91 to 95 per cent in Tamil Nadu and 100 per cent in Punjab.

A study was undertaken by Subhasis et al. (2011) to analyze the marketing efficiency of major vegetable crops in Coastal Districts of West Bengal. The producers' prices on consumer rupee were estimated to be 44 % under marketing of brinjal followed by bhindi (37%) and tomato (26%).

Otteh and Njoku (2014) examined the marketing efficiency of packaged water and its determinants. The study employed purposive and multistage sampling technique in the selection of location and respondents respectively from whom information was elicited. The result showed that marketer in semi-urban areas was operating below optimum efficiency levels.

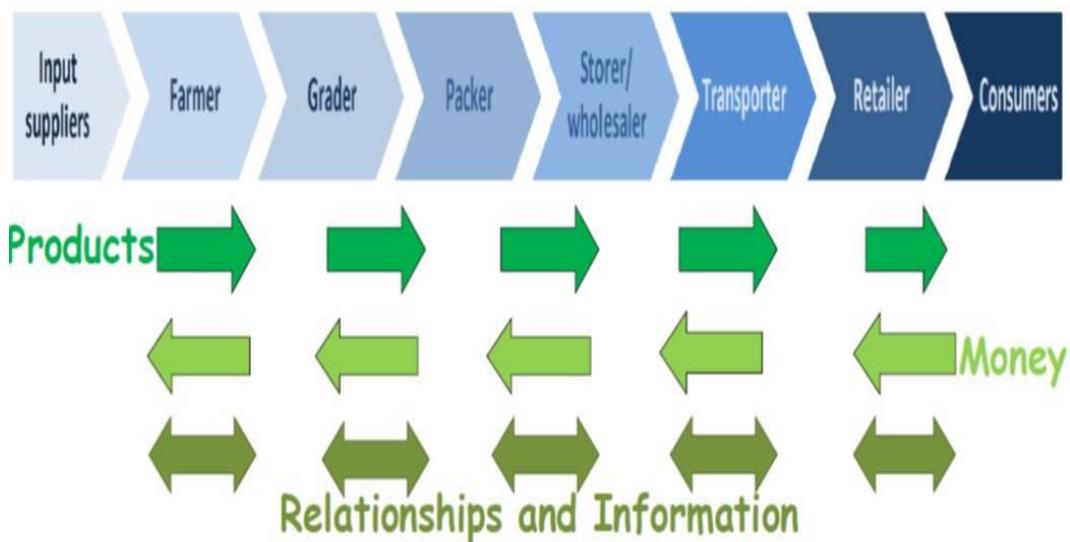
A study by Emam (2011) evaluated the marketing efficiency of tomato in Khartoum State central markets in winter 2010. The study depended mainly on primary data, which was collected through a questionnaire. The investigation revealed that retailers got higher marketing efficiency than wholesalers. Omdurman market was ranked at the top concerning marketing efficiency followed by Bahari and Khartoum (at wholesale & retail levels).

## 2.2 Conceptual Framework

### Agriculture Value Chain

The conceptual framework adopted for the study is the agriculture value chain. An agriculture value chain identifies the set of actors and activities that bring a primary agricultural product from production in the field to final consumption, where at each stage value is added to the product (FAO, ILO and IFAD, 2010).

A value chain can be a vertical linking or a network between various independent business organizations and can involve processing, packaging, storage, transport and distribution. A generic agriculture value chain is shown in Figure 2.1



*Figure 2.2 generic agriculture value chain*

Generic value chain (Adapted from Dent et al, 2017).

Value chains are interactive systems, with products, money and information flowing through them, all reliant on relationships. The critical point is that the only source of money into the chain (other than credit or subsidies/aid) comes from consumers. Accordingly, a value chain's economic success

depends on delivering a product from seed, through production, processing and transport, which appeals to those consumers being served by the retailer.

Within value chains, individuals or firms can undertake more than one function, and information does not have to flow linearly: seed suppliers can conduct their consumer research while farmers can speak directly to retailers. However, if each actor only knows about their direct suppliers and customers, because of chain-wide interdependence in the flow of products and money, they are vulnerable to lower returns because of unknown problems in other parts of the chain.

A value chain analysis is vital for understanding pricing margins, price spread and marketing efficiency because it outlines the various actors and activities involved in moving an agriculture product from the farm to the consumer. It is possible to identify the multiple events and cost involved in the various stages of the chain. This information can enable us to isolate each participant (producers, wholesalers and retailers) margins, determine the percentage of the consumer price received by the various consumers (price spread) and in so doing discover the efficiency of the market.

### **2.3 Gaps identified in the literature**

Market margins, price spread and marketing efficiency has been the subject of research in the South West region of Cameroon, but this has principally been focused on poultry (Ufoka et al., 2018), Eru (Ndumbe, 2010) and vegetables (Bidogezza et al., 2016). Furthermore, the only research that looked closely at allegations of producer's exploitation in marketing systems of the region dated back to the 1980s and encompassed the North West and South West Region.

No readily available and recent study on marketing cost, margins and price spread has been conducted specifically for the Buea Municipality. This study will fill this thematic, geographic and time gap in knowledge.

## CHAPTER THREE

### METHODOLOGY OF STUDY

#### 3.1 Model specification

The study adopted the following mathematical models to evaluate marketing margins, price spreads and marketing efficiency.

To evaluate marketing margins, the Gross Margins Method or model was used, explicitly stated mathematical as

$$M_t = \sum_{i=1}^n \left( \frac{S_i - C_i}{Q_i} \right)$$

$M_T$  = Total marketing margin

$S_i$  = Sale value of a product

$C_i$  = Cost value of a product

$Q_i$  = Quantity of the product handled

To evaluate the price spread and producer share of consumer FCFAs, the following formula were used

Price spread = Price paid by ultimate consumer – Price received by producer

$$\text{Producer's share of consumer FCFA} = P_s = \frac{P_f}{P_c} \times 100$$

Where  $P_s$  = Producers share in consumer FCFA

$P_f$  = Price of the product received by the farmer

$P_c$  = Price of the product paid by ultimate consumer

To evaluate the marketing efficiency, the Acharya's model of marketing efficiency, was used and mathematically stated as:

$$\text{MME} = \text{FP} / (\text{MC} + .\text{MM})$$

Where MME is the modified measure of marketing efficiency

FP is the Prices received by the farmer

MC is the marketing costs

MM is the marketing margins

### **3.2 Description of variables in the models**

Appendix 1 presents the dependent and independent variables that constitute the chosen mathematical models.

### **3.3 Study design**

The study adopted a descriptive cross-sectional survey design. The study was a cross-sectional survey because it looked at the marketing margins, price spread and marketing efficiency of selected food crops at a particular point in time using a representative sample of actors along the production and marketing value chains for these food types in the Buea Municipality of the South West Region of Cameroon.

### **3.4 Study population**

The study population consisted of small-scale subsistence farmers, wholesalers and retailers of food crop items, aged between of 18 years and above in the Buea Municipality.

### **3.5 Sample size and sampling technique**

#### **3.5.1 Sample size**

To arrive at the sample size for the population, the study made use of the formula for the calculation of sample size of an unknown population, stated as

$$n = \frac{z^2(\sigma(1-\sigma))}{e^2}$$

Where n= sample size

$\sigma$  = standard of deviation of population estimated at 0.5

z = z-value at 95% confidence interval which is 1.96

e = error term was estimated at 0.05.

Based on the foregoing, the theoretical sample size calculated as 384.

### **3.5.2 Sampling technique**

To select the study sampling population, multiple staged sampling procedures were obtained for the various study population.

To select the farmers and wholesalers, 5 out of the nine main farmgate markets selected in the municipality were randomly chosen using balloting. These include Bwassa farmgate market, Likombe farmgate market, Tole Farmgate market, Small Soppo Farmgate market and Molyko big mop farmgate market. From these, 30 farmers and 30 wholesalers were conveniently selected from each farmgate gate markets based on their availability and willingness to participate in the study. These gave a total of 150 farmers and 150 wholesalers.

To select the retailers, 4 out of the five main markets in the Buea municipality were chosen randomly using balloting. These included Muea Market, Central Market, Soppo Market and Buea Town Market. From each of the selected markets, 21 retailers were conveniently selected based on their availability and willingness to participate in the study. These gave a total of 84 retailers.

The total study population was 384 farmers, wholesalers and retailers.

### **3.6 Data collection and instrumentations**

Both primary and secondary data were used in the study. Primary data was collected with the use of a close and open questionnaire (Appendix 1). The questionnaire was made up of two parts with the first part consisting of socio-demographic information about the study participants. The second part included farmgate prices, producer cost, transportation cost, marketing cost and retail price for a selected food product. To address issues of comparability, only the unit prices of items of similar sizes and or quantity were elicited from the study participants. These cost or price items were triangulated from other sources.

Three hundred and eighty-four (384) questionnaires were distributed to farmers, wholesalers and retailers. Two hundred and forty-seven (246) were returned, given a response rate of 64.3 per cent. Due to some unforeseen reasons and difficulties some questionnaires were not received.

Secondary data were collected through a desk review of related peer review articles, government statistics, published thesis, magazine articles, internet articles etc.

### **3.7 Validity and reliability of instruments**

To ensure the validity of the questionnaire, two measures were taken. The questionnaire was field tested. After the pilot, certain items in the questionnaires were deleted, rephrased and added to improve respondent's comprehension of the questionnaires. The questionnaire was also subjected to expert validation.

To ensure the reliability of the questionnaire, test-retest was done. The correlation coefficient between the test was found to be high ( $R=0.79$ ) thereby showing that the tool was internally consistent.

### **3.8 Analytical approach**

The data were entered into Microsoft Excel 2013 spreadsheet. The data was cleaned for inconsistent and incorrect entries. The cleaned data was exported into the Statistical Package for Social Science 22 software. Missing value analyses was performed which revealed a missing value rate of 3.75%. The quantitative data were subjected to descriptive studies using counts, percentages, means and standard deviation with the aid of SPSS 22 software. Tables, charts and narratives were used to present the findings of the study.

### **3.9 Ethical consideration**

The researcher took the following methods to obtain consent and confidentiality of the data provided. Before enrolling participants for the study, the researcher and field aids explained the essence of the research and only recruited participants who were willing to participate without any remuneration or coercion in the study. To ensure confidentiality, participants were not required to divulge their identity and the information collected were only useful for the purpose for which it was intended.

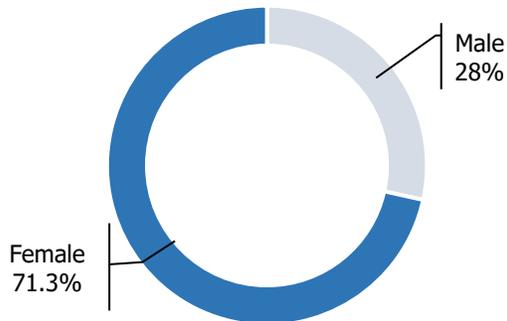
## CHAPTER FOUR

### PRESENTATION OF RESULTS AND DATA ANALYSES

#### 4.1 Socio-demographic description of study population

##### 4.1.1 Gender

Among the 246 respondents that constituted the study, 176 (71.3%) were females and 70 (29.7%) were males (Figure 4.1).



*Figure 4.3 Gender of study population*

##### 4.1.2 Role in value chain

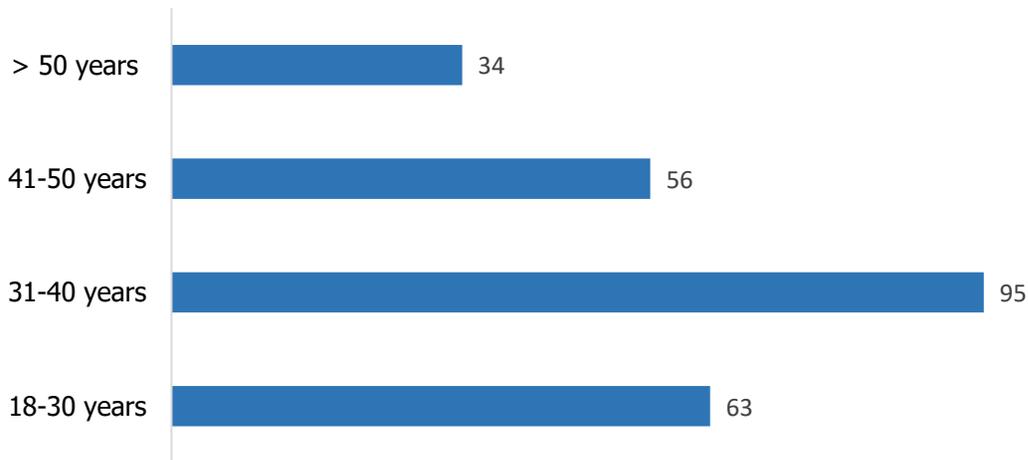
As shown in Figure 4.2, 94 (38.2%) of the study population were farmers or producers, 75 (30.5%) were wholesalers and 77 (31.3%) were retailers.



*Figure 4.4 Role of study population in food value chain*

##### 4.1.3 Age group

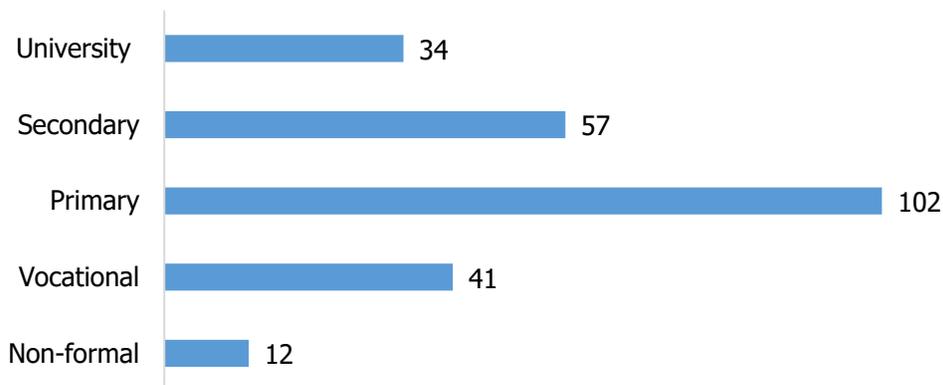
As shown in Figure 4.3, 63 (25.6%) of the study population were between the ages of 18 and 30 years, 94 (38.6%) were between the ages of 31 and 40 years, 55 (22.8%) were between the ages of 41 and 50 years while 34 (13.8%) were above 50 years.



*Figure 4.5 Age group of study participants*

#### **4.1.4 Level of education**

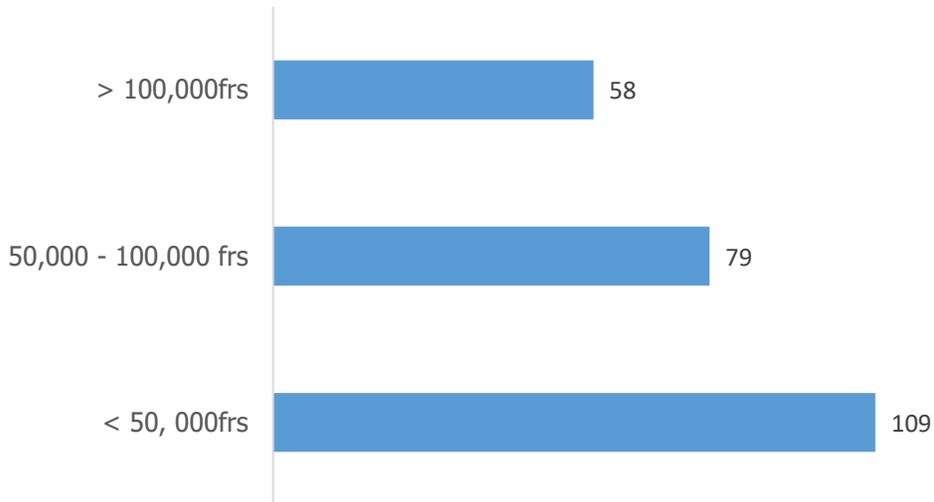
Twelve (4.9%) of the respondents had no formal education, 41 (16.7%) had vocational education, 102 (41.5%) had primary level education, 57 (23.2%) had secondary school level education and 34 (13.8%) had university level education (Figure 4.4).



*Figure 4.6 Level of education of study population*

#### **4.1.5 Level of income**

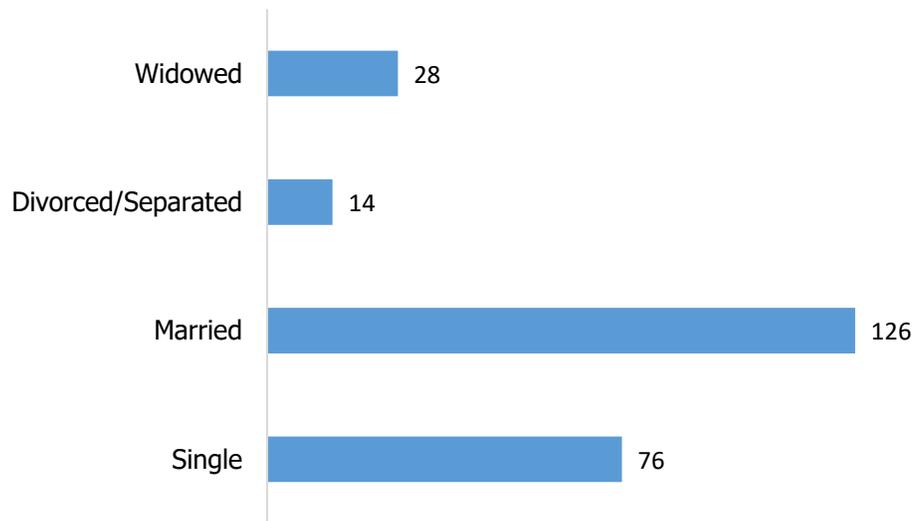
As shown in Figure 4.5, 109 (44.3%) of the study population earned less than 50,000FCFA a month, 79 (32.1%) earned between 50,000 and 100,000FCFA in a month and 58 (23.6%) earned above 100,000FCFA a month.



**Figure 4.7 Monthly income of study population**

**4.1.6 Marital status**

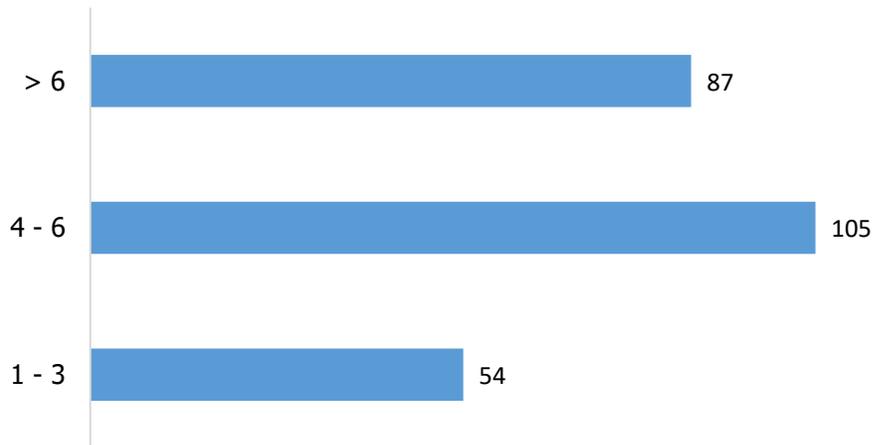
As shown in Figure 4.6, 77 (30.9%) of the study population were single, 127 (51.2%) were married, 14 (5.7%) were divorced/separated and 28 (11.4%) were widowed.



**Figure 4.8 Marital status of study population**

**4.1.7 Household size**

As shown in Figure 4.7, 54 (22%) of the study population had household size of between 1 and 3 persons, 105 (42.7%) had household size of 4 to 6 persons while 87 (35.3%) had household size of above persons.



*Figure 4.9 Household size of study population*

## 4.2 Findings of the study

### 4.2.1 Marketing cost and margins of selected food crops along the producer-wholesaler-retail value chain

Table 4.1 presents a descriptive analyses of the marketing cost and marketing margins for selected food crops in the Buea Municipality.

For a bucket of cocoyam, the producer received an average price of 3020.1 FCFA from the wholesaler, incurred an average total cost of 2544.1FCFA, thereby given an average profit margin of 475.95FCFA. Upstream, the wholesaler received an average of 4425.2FCFA for a bucket of cocoyam from the retailer, incurred an average total cost of 3648.8FCFA and made an average profit margin of 776.34FCFA. Further up the chain, the retailer received an average price of 5308.1FCFA from consumer, incurred a total average cost of 4819.6FCFA and made an average profit margin of 488.5FCFA.

**Table 4.1 Marketing margins for selected food crops in the Buea Municipality**

S/N	Particulars	Food crops prices (FCFA)					
		Cocoyam (1 bucket)	Plantains (1 bunch)	Sweet bitter leaf (1 bundle)	Maize (1 bag)	Cassava (1 bag)	Banana (1 bunch)
<b>1</b>	Price paid by wholesaler	2920.1	1624.7	98.01	3018.2	3387.8	989.3
<b>2</b>	Cost incurred by producer	2649.2	1449.5	89.5	2729.4	2997.3	805.5
	a) Labor	422.2	209.4	18.5	652.1	616.8	123.4
	b) Input	950.2	625.2	55.2	995.6	996.5	323.5
	c) Land rents	352.1	320.1	0.8	369.2	482.3	102.3
	d) Transportation	423.2	150.2	10.2	350	369.5	120.4
	e) Loading/Unloading	375.3	75.6	0.52	232.5	389.5	97.5
	f) Misc. expenses (5% of cost)	126.15	69.025	4.261	129.97	142.73	38.355
	Producer Margin (1-2)	271.0	175.175	8.529	288.83	390.47	183.845
<b>3</b>	Price paid by retailer	4425.2	3502.3	150.3	5002.3	5124.1	1804.3
<b>4</b>	Cost incurred by wholesaler	3543.9	2522.1	125.8	3989.6	4254.1	1355.3
	a) Price received by farmer	2920.1	1624.7	98.01	3018.2	3387.8	989.3
	b) Packaging	102.1	102.1	5.2	100.3	103.6	0.95
	c) Transportation	150.2	320.2	10.2	320.2	204	100.3
	d) Loading/Unloading	127.2	230	4.1	156.3	257.4	102
	e) Local taxes/Fees	75.5	125	2.3	204.6	98.7	98.2
	f) Misc. expenses (5% of cost)	168.755	120.1	5.9905	189.98	202.575	64.5375
	Wholesaler Margin (3-4)	881.3	980.2	24.5	1012.7	870.0	449.0
<b>5</b>	Price paid by consumer	5308.1	4958.3	215.2	7500.2	6325.9	2715.4

S/N	Particulars	Food crops prices (FCFA)					
		Cocoyam (1 bucket)	Plantains (1 bunch)	Sweet bitter leaf (1 bundle)	Maize (1 bag)	Cassava (1 bag)	Banana (1 bunch)
<b>6</b>	Cost incurred by retailer	4819.6	4531.4	202.8	7117.2	6158.6	2411.6
	a) Priced received by wholesaler	4225	3502.3	150.3	5002.3	5124.1	1804.3
	b) Sorting	50.6	89.5	11.2	356.2	75.2	23.6
	c) Transportation	50.2	220.3	10.3	450.7	268.2	125.4
	d) Packaging	80.2	105.2	10.2	100.3	98.2	104.2
	e) Loading/Unloading	34.2	124.8	4.3	350.5	105.1	97.5
	f) Market fees	24.3	150.3	2.3	262.3	105	89.7
	g) Warehousing fees	125.6	123.2	4.5	256	89.5	52.1
	h) Misc. expenses (5% of cost)	229.505	215.78	9.655	338.915	293.265	114.84
	Retailer margin (5-6)	488.5	426.9	12.4	383.0	167.3	303.8

For a bunch of plantains, the producer received 1624.7FCFA, incurred an average cost of 1449.2 FCFA and made a profit margin of 175.17FCFA. Further up the chain, a wholesaler received an average of 3502.3FCFA from retailer, incurred an average cost of 2522.1FCFA and earned an average profit margin of 980.2 FCFA while the retailer received an average of 4958.3 FCFA from the consumer, incurred an average price of 4531.4 FCFA and made an average profit margin of 426.9 FCFA for a bunch of plantain of a similar size.

For a bundle of sweet, bitter leaf, a producer received an average of 98.01 FCFA from the wholesaler, incurred an average cost of 89.5 FCFA and made an average profit of 8.5 FCFA. Up the sweet bitter leaf chain, a wholesaler received an average of 150.3 FCFA from the retailer, incurred an average cost of 125.8 FCFA and made an average profit margin of 24.5 FCFA while the retailer received an average of 215.2 FCFA from the final consumer, incurred an average cost of 202.8 FCFA and made an average profit margin of 12.4 FCFA.

For a 100kg bag of maize, a producer received an average of 3018.2 FCFA from the wholesaler, incurred an average cost of 2729.4 FCFA and made an average profit of 288.83 FCFA. Up the maize chain, a wholesaler received an average of 5002.3 FCFA from the retailer, incurred an average cost of 3989.6 FCFA and made an average profit margin of 1012.7 FCFA while the retailer received an average of 7500.2 FCFA from the final consumer, incurred an average cost of 7117.2 FCFA and made an average profit margin of 383.0 FCFA.

For a 100kg bag of cassava, a producer received an average of 3387.8 FCFA from the wholesaler, incurred an average cost of 2997.3 FCFA and made an average profit of 390.47 FCFA. Up the cassava chain, a wholesaler received an average of 5124.1 FCFA from the retailer, incurred an average cost of 4254.1 FCFA and made an average profit margin of 870 FCFA while the retailer received an average of 6325.9 FCFA from the final consumer, incurred an average cost of 6158.6 FCFA and made an average profit margin of 167.3 FCFA.

For a bunch of banana, a producer received an average of 989.3 FCFA from the wholesaler, incurred an average cost of 805.5 FCFA and made an average profit of 183.8 FCFA. Up the banana chain, a wholesaler received an average of 1804.3 FCFA from the retailer, incurred an average cost of 1355.3 FCFA and made an average profit margin of 449.0 FCFA while the retailer received an average of 2715.4 FCFA from the final consumer, incurred an average cost

of 2411.6 FCFA and made an average profit margin of 303.8 FCFA for bunch of banana of similar size.

#### 4.2.2 Producer-wholesale-retail price spread for selected food crops

Table 4.2 presents a descriptive analyses of the farm gate-wholesaler-retailer price spread or transmission for selected food crops in the Buea Municipality

**Table 4.2 Price spread and producer's, wholesaler and retailers share of consumer's francs for selected food crops in the Buea Municipality**

S/N	Particulars	Food crops (FCFA)					
		Cocoyam (1 bucket)	Plantains (1 bunch)	Sweet bitter leaf (1 bundle)	Maize (1 bag)	Cassava (1 bag)	Banana (1 bunch)
1	Price paid by wholesaler	3020.1	1624.7	98.01	3018.2	3387.8	989.3
2	Price paid by retailer	4425.2	3502.3	150.3	5002.3	5124.1	1804.3
3	Price paid by consumer	5308.1	4958.3	205.2	7500.2	6325.9	2715.4
Price spread (3-1)		2288	3333.6	107.19	4482	2938.1	1726.1
Producers' share of consumer's francs (1/3 x100)		56.8%	32.76%	47.7%	40.24%	53.5%	36.43%

The price spread and producer's share of the consumer francs for a bucket of cocoyam were 2288 FCFA and 56.8% respectively. The price spread and producer's dividend of the consumer francs for a bunch of plantains were 3333.6 FCFA and 32.76% respectively. The price spread and producer's dividend of the consumer francs for a bundle of sweet, bitter leaf were 107.19

FCFA and 47.7% respectively. The price spread and producer's profit of the consumer francs for a 100kg bag of maize were 4482 FCFA and 40.24% respectively. The price spread and producer's share of the consumer francs for a 100kg bag of cassava were 2938.1 FCFA and 53.5% respectively while the price spread and producer's share of the consumer francs for a bunch of banana were 1726.1FCFA and 36.43% respectively.

#### 4.2.3 Marketing efficiency of selected food crops in the Buea municipality

Table 4.3 presents a descriptive analyses of the marketing efficiency for selected food products in the Buea Municipality.

**Table 4.3 Marketing efficiency of selected food crops in the Buea municipality**

S/N	Particulars	Food crops					
		Cocoyam (1 bucket)	Plantains (1 bunch)	Sweet bitter leaf (1 bundle)	Maize (1 bag)	Cassava (1 bag)	Banana (1 bunch)
1	Price paid by consumers	5308.1	4958.3	215.2	7500.2	6325.9	2715.4
2	Total Marketing Cost	3444.31	3225.8	159.5	3465.6	4528.5	1658.38
3	Total Net Margins of Intermediaries	1369.8	1407.1	36.9	1395.7	1037.3	752.8
4	Net price received by the producer	2920.1	1624.7	98.01	3018.2	3387.8	989.3
5	Value Added (1-4)	2388	3333.6	117.19	4482	2938.1	1726.1
6	Index of Marketing Efficiency						
	Acharya's Method (4/(2+3))	60.7	35.1	49.9	62.1	60.9	41.0

Based on the Acharya's method, the marketing for cocoyam, plantains, sweet bitter leaf, maize, cassava and banana were 60.7%, 35.1%, 49.9%, 62.1%, 60.9% and 41.0% efficient respectively.

### **4.3 Implications and discussion of findings**

#### **4.3.1 Socio-demographic characteristics of study population**

The majority (176 or 71.3%) of the study population were women. This implies that women dominate the food production and marketing chain in the Buea municipality and can be explained by the fact the sector does not require specialized skills and capitals which often are not possessed by women. The dominance of women of the agro production and commercialization chain has also been observed by FAO (2011).

It was also observed that the most significant proportion (94 or 38.2%) actors in the food production and marketing value chains under study were farmers. This implies that farmers dominate the agro commodity value chains in the Buea Municipality and can be explained by the fact as compared to wholesaling and retailing, farming requires minimal financial resources. The dominance of farmers in the food crop value chain has also been observed by FAO (2011).

Slightly more than half (158 or 64.2%) of the study population were below the ages of 41, indicating a youthful workforce capable of providing the human capacity for improved productivity along the chain. This youthful nature of the population agrees with the population structure where youths between the ages of 15 and 35 represent more than 30% of the national population (BUCREP, 2005). In a study carried by USAID and LEO (2016), a similar youthfulness in the study population was observed.

Most (193 or 78.4%) of the study population have some form of formal education, even though most (102 or 52.8%) have but primary school level education. This attests to a relatively literate population and can be explained by the proliferation of institutes of learning in the municipality. A similar literate population of participants involved in the food production and commercialization chain has been observed by Oluwatayo (2017) in the Polokwane municipality, Capricorn district of Limpopo Province, South Africa.

Close to half (109 or 44.3%) of the population earned less than 50,000 FRS monthly indicating a poor population living on 1666frs (\$3.03) a day which is slightly above the World Bank poverty

threshold of \$2 a day. This study poverty is a reflection of the Cameroon population where a majority live somewhat above the poverty threshold (Tegum and Kotzo, 2016).

Slightly above half (126 or 51.2%) of the study population are married. This can be explained by the fact that Buea like any other community socially encourages marriages for people above 18 years which in this case dominate the study population.

More than three quarters (192 or 78.1%) of the study population have a household size of 4 or more persons. This is indicative of slightly above moderate household size. The fact can also explain it in most African communities larger household size are encouraged due to the labour dividends it provides particularly for agri-dependent households. But increasingly, the cost of tendering a large family is rapidly becoming prohibitive for most household heads, forcing them to settle for more average families.

#### **4.3.2 Marketing cost and margins of selected food crops along the producer-wholesaler-retail value chain**

The marketing cost of the producers, wholesalers and retailers for a bucket of cocoyam was respectively 90.7%, 80.1% and 90.3% of the sales prices while the marketing margins were respectively 10.2%, 24.8% and 10.3% of the cost incurred. For the producers, the marketing cost and margins were principally determined by inputs, labour and transportation which constituted 67.7% of the total cost. For the wholesalers, the two most important determinants of the marketing cost and margins were the cost of transportation and loading and offloading while for the retailer, it was the cost of warehousing fees and packaging.

The marketing cost of the producers, wholesalers and retailers for a similar bunch of plantain were respectively 89.2%, 70.0% and 82.3% of the sales price while their marketing margins were 12.8%, 38.8% and 9.4% of the cost incurred. The significant determinants of the marketing cost and margins for producers were the high cost of inputs and land rents. For the wholesalers, these included transportation and loading and offloading cost while for retailers these were the high cost of transportation and marketing fees.

The marketing cost of the producers, wholesalers and retailers for a bunch of sweet, bitter leaf were respectively 91.3%, 83.6% and 87.3% of the sales prices. Their margins were respectively 9.5%, 19.5% and 6.1% of the cost incurred. The major contributing factors of the marketing cost

were the cost of inputs for producers, cost of transportation for wholesalers and price of sorting for retailers.

The marketing cost for a 100kg bag of maize for producers, wholesalers and retailers were respectively 90.4%, 79.7% and 94.8% of the sales price while the marketing margins were respectively 10.5%, 25.4% and 5.3% of the cost incurred. The major contributing factor to the marketing cost and margins were the cost of input and labour for producers, transportation and local taxes/fees for wholesalers and transportation, sorting and loading/offloading for retailers.

The marketing cost for a 100kg bag of cassava for producers, wholesalers and retailers were respectively 88.47%, 83.03% and 97.3% of the sales price. The marketing margins were 13.03%, 20.4% and 2.7% of the cost incurred. The major contributing factor to the marketing cost and margins were the cost of inputs and labour for farmers or producers, cost of loading/offloading and transportation for wholesalers and transportation and packaging for retailers.

The marketing cost for a bunch of banana for producers, wholesalers and retailers were respectively 81.4%, 75.1% and 88.8% of the sales price while the marketing margins were respectively 22.8%, 33.1% and 12.5% of the cost incurred. The major contributing factors to the marketing cost and margins were the cost of inputs and transportation and land rents for producers, transportation for wholesalers and transportation and loading/offloading fees, transportation and market fees for retailers.

Findings generally indicated that producers as compared to wholesalers and retailers incur the highest cost but has the smallest profit margin on price on invariably all the selected food crops. These high level of profits made by wholesalers or intermediaries in the marketing of agriculture products have been shown by Hollier (1985), Ndumbe (2010), Bhosale et al. (2011), Misginaw (2011) and Shankar and Singh (2016).

Also, the study indicated that the major contributing factors to the marketing cost of the selected agricultural products were the cost of input, labour, and transportation, loading/offloading and marketing fees. The preceding has been shown to offset marketing cost and margins by Bhosale et al. (2011), Shelke et al. (2016), Yamano and Aria (2010).

#### **4.3.3 Price spread and producer share of consumer francs for selected food crops**

The study indicated that there were wide variations in the price received by the producer and the amount paid by the ultimate consumer for invariably all the selected food crops. The findings also indicated that in the marketing of cocoyams, plantains, sweet bitterleaf, maize, cassava and banana, producers received 56.8%, 32.7%, 47.7%, 40.24%, 53.5% and 36.43% of the consumer francs. Thus, the significant share of consumer's francs was swallowed up by the different levels of market functionaries, and a considerable part was involved in the form of various services and marketing costs. High price spread and minor consumer share in the consumer francs have been observed by in Iran Kherandish and Gowda (2012).

#### **4.3.4 Marketing efficiency of selected food crops**

The findings indicated the marketing efficiency was moderate for cocoyam (60.7%), low for plantains (35.1%), close to average for sweet, bitter leaf (49.3%), moderate for maize (62.1%), moderate for cassava (60.9%) and low for banana (41%). This indicates that the marketing is not sufficiently efficient and leaves rooms for the exploitation of some parties or actors in the marketing chain of the selected food crops.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary of findings**

##### **5.1.1 Summary of findings for specific objective 1**

The findings generally indicated that producers as compared to wholesalers and retailers incur the highest cost but has the smallest profit margin on price on invariably all the selected food crops. The major contributing factors to the marketing cost of the selected agricultural products were the cost of input, labour, and transportation, loading/offloading and marketing fees.

##### **5.1.2 Summary of findings for specific objective 2**

The study indicated that there were wide variations in the price received by the producer and the amount paid by the ultimate consumer for invariably all the selected food crops. Furthermore, producers only gained 56.8%, 32.7%, 47.7%, 40.24%, 53.5% and 36.43% of the consumer francs in the marketing of cocoyam, plantains, sweet bitter leaf, maize, cassava and banana which was further swallowed up by various cost items and margins of wholesalers and retailers.

##### **5.1.3 Summary of findings for specific objective 3**

The study found out that the marketing systems for all the selected food crops are not sufficiently efficient, with efficiency scores ranging between 60 and 30%.

#### **5.2 Conclusion**

The study concluded that there is an empirical base for allegations of producer exploitation in the marketing of selected food crops given that producers as compared to wholesalers receive a small share of consumer francs which are further eroded by high cost incurred in marketing the produce. The marketing efficiency assessment for the selected products also attests to the veracity of the allegations given that the marketing systems for all the selected products are not fully functional leaving the room and the potential for the exploitation of one or more parties in the marketing chain.

### **5.3 Recommendations**

#### **To the government**

1. The government should enact policies that ensure that subsidizes or reduce the cost of transportation considerably. This will help offset the cost of transportation which has been shown to be a major problem in the price of marketing for wholesalers and retailers.
2. Governments should also create and or rehabilitate farm-to-market roads to ensure lower transportation cost for food products
3. The government should subsidize the cost of farming inputs since these cost categories constitute an essential determinant of farmers' marketing margins.
4. The government should create a system of price controls to ensure that unscrupulous intermediaries do not take advantage of poor producers
5. The government should develop a market information system whereby producers can take advantage of high prices and avoid losses in the period of low prices

#### **To local councils authorities**

1. Local council authorities should reduce marketing fees particular for retailers of plantains and bananas.
2. Local council authorities should create low-cost warehousing facilities to enable retailers to offset the high cost of warehousing of their products.

#### **To producers**

1. Producers should constitute themselves into cooperative groups or producers union to take advantage of collective bargaining with wholesalers
2. . Producers should engage in product transformation to add value thereby attracting more significant earnings

#### **To Researchers**

1. Researchers should conduct studies on the most efficient channels for the marketing of selected products
2. Researchers should also conduct studies on the spatial transmission of price to evaluate market integration.

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## APPENDICES

### Appendix I

**PAN AFRICAN INSTITUTE FOR DEVELOPMENT -WEST AFRICA  
P.O BOX 133, BUEA, CAMEROON**



**DEPARTMENT OF DEVELOPMENT STUDIES**

### QUESTIONNAIRE

#### **Preamble**

I am Victor Eyong Ayuk, a Student of Pan African Institute for Development West Africa. I am carrying out a Research on the topic: **“Examining allegation of producer exploitation in the marketing systems of selected food crops in the Buea municipality, South West Cameroon.”** in fulfilment of an award of a Higher Technical Diploma in Development Studies (HTDDS).

I wish to request your participation in responding to this questionnaire. The exercise will help me in this research to gather the necessary information needed for the completion of my thesis. I assure you your answers shall be kept confidential and used for academic purposes only. Thank you.

**Instructions:**

- a) Please mark a cross against the options provided;
- b) In case of options give brief statements
- c) Please endeavour to answer all questions to contribute to the success of this research.

**SECTION A: Socio-Demographic Characteristics of Farmgate market participants**

1. Sex: Male [ ] Female [ ]
2. Role in value chain: Farmer [ ] Retailer [ ] Wholesaler [ ] Final consumer [ ]
3. Age group: 20-30 [ ] 31-40 [ ] 41-50 [ ] 50+ [ ]
4. Level of education: Primary [ ] Secondary [ ] High school [ ] University [ ] Others [ ] specify.....
5. Monthly income: 1-50,000frs [ ] 50001 – 100000frs [ ] >100000frs [ ]
6. Marital status : Married [ ] Single [ ] Widowed [ ] Divorced [ ]
7. Household size: 1-3 [ ] 4-6 [ ] > 6 [ ]

**SECTION B: Marketing cost and margins of selected food crops along the producer-wholesaler-retail value chain**

**For producers**

S/N	Particulars	Food crops prices (FCFA)					
		Cocoyam	Plantains	Sweet B.er leaf	Maize	Cassava	Banana
		(1 bucket)	(1 bunch)	(1 bundle)	(1 bag)	(1 bag)	(1 bunch)
	Price paid by wholesaler						
	Cost incurred by producer						
	a) Labor						
	b) Input						
	c) Land rents						
	d) Transportation						
	e) Loading/Unloading						
	f) other (specify)						

### Wholesalers

S/N	Particulars	Food crops prices (FCFA)					
		Cocoyam	Plantains	Sweet Bitter leaf	Maize	Cassava	Banana
		(1 bucket)	(1 bunch)	(1 bundle)	(1 bag)	(1 bag)	(1 bunch)
	Price paid by retailer						
	Cost incurred by producer						
	a) packaging						
	b) Transportation						
	c) Loading/offloading						
	d) local taxes						
	e) other (specify)						

S/N	Particulars	Food crops prices (FCFA)					
		Cocoyam	Plantains	Sweet Bitter leaf	Maize	Cassava	Banana
		(1 bucket)	(1 bunch)	(1 bundle)	(1 bag)	(1 bag)	(1 bunch)
	Price paid by retailer						
	Cost incurred by producer						
	a) Sorting						
	b) Transportation						
	c) Loading/offloading						
	d) local taxes						
	d) Market fees						
	e) Warehousing						
	e) other (specify)						

**Appendix 2:** Description of variables in the models

<b>Models</b>	<b>Dependent variables</b>	<b>Independent variables</b>	<b>Measurement</b>
Gross Margin Model	Gross margin ( $M_t$ )	a. Sale value of a product ( $S_i$ ) b. Cost value of a product ( $C_i$ ) c. Quantity of the product ( $Q_i$ )	<p><b>Sales price</b>                      The sales value of the product was computed as price received by producer, wholesaler and retailer per bundle of vegetable, bunch of plantain, 20 liters bucket of coco yams, bunch of banana, 100 kg bag of maize and 100kg bag of cassava.</p> <p><b>Cost price</b></p> <ul style="list-style-type: none"> <li>- Labour cost per unit product was measured as the total cost of man-days divided by the total products harvested</li> <li>- Inputs cost per unit product was measured as the total cost of fertilizers, herbicides, pesticides divided by the total products harvested</li> <li>- Land rents per unit product was calculated as total cost of renting land divided by total products harvested</li> <li>- Transportation was measured as the total cost of transporting a unit product</li> <li>- Loading and offloading as measured as the total cost of transporting products divided by total products</li> <li>- Miscellaneous expenses was estimated at 5% of total expenses per unit product</li> <li>- Local taxes was estimated based on the taxes per unit product</li> <li>- Market fees were estimated as the amount charged by market authorities per unit product</li> <li>- Packaging cost were estimated as the cost of packaging material per unit product</li> <li>- Warehousing cost was the cost charged per unit of product</li> </ul>
Price spread model	1. Producers' share  2. Price spread	Price paid by consumer Price paid by wholesaler	
Acharya's model	Marketing efficiency (E)	a. Prices received by the farmer FP b. Marketing costs MC c. Marketing margins MM	



**Some Vegetable vendors of Tole Farmgate market**