



**The Yam Value Chain:  
Constraints and Opportunities for Small-Scale Farmers  
(A case study of “Pan” yam farmers in middle-belt Nigeria)**

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## **Dedication**

To the loving memory of my Father, Muhammadu (Emmanuel) Damulak who instilled in me the drive to change things and to always seek for improvements in the conditions of every man.



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## List of Acronyms

FAO	Food and Agricultural Organization of the United Nations
IITA	The International Institute of Tropical Agriculture
CIA	Central Intelligence Agency
NBS	National Bureau of Statistics Nigeria
EON	Encyclopaedia Of Nations

## **Abstract**

In recent literature, there have been consistent debates on how rural non-mechanized farmers can reorganize themselves in order to ensure inclusion and benefits from value chains. However, these debates do not take into account the social processes existing within the value chains, which are embedded in the cultural practices of the people.

This paper therefore tends to critically examine both the social and economic processes that have contributed to the incorporation of farmers into the yam value chain and as a result, made them more effective and efficient in the process.

The location for this study is in Central Nigeria with particular focus on the capitalist-oriented Pan farmers and their socio-economic production processes such as accumulation of many wives and reciprocity arrangements to improve production. These production processes are further compared to their immediate competitors the Eggon, who produce the same product within the same region but are more market oriented using wage labour. These two groups were compared based on economic and social indices to determine which of them is most efficient.

Key findings showed the importance of the social labour organisation in both communities towards the production efficiency. However, it seemed also that the value chain governance structure at the local markets had a major role in determining the share of the revenue that was returned to the farmers.

In addition, other findings, which were derived during the research, identified a number of governance issues, which go beyond labour organization. These issues were also investigated.

Finally, this paper concludes with a socio-economic review with a review based on observations on the Pan farmers.

## **Relevance to Development Studies**

This paper seeks to add to various development studies literature on rural non-mechanized farmers and their relationships and participation levels in regional and global value chains. It does so by critically examining seemingly successful commercial yam farmers in the middle-belt Nigeria, in terms of production and chain activities and the economic and social processes that support these activities.

## **Keywords**

Value Chains, Governance, Upgrading, Constraints to Upgrading, Kofyar, Pan, Eggon, Yam, Culture, Informal Economy, Social Organization, Middle-belt, Central Nigeria, Benue Trough/Valley, Jos Plateau, Rural non-mechanized farmers, Reciprocity, Polygamy

# Chapter 1 INTRODUCTION

Farmers in several regions are incorporated into value chains in various ways and for multiple reasons. A lot of studies have been carried out on value chains and the impact with regards to small-scale farmers. However very little is known about the yam chain and the social organization of these farmers at the farm level. This chain is domesticated, and it is important to note that, 'Yams are deeply tied to the lives, livelihoods and cultures in West Africa and among Africans in diasporas' IITA (2012).

This study therefore, takes a different approach thereby examining the social processes involved, by the farmers from Pan, involved in yam farming with special emphasis on how their organization labour, and the variety of strategies they have incorporated to meet up with economic practices has impacted on the profit made. Thus, this organization of labour will be compared to that of their competitors of the same product, the Eggon and see how they respond to economic trends differently. Thus, one may ask, why different cultures respond differently to labour organization? This question will be answered as we go deeper into the data analysis.

It will be seen that Pan farmers make use of cultural practices of reciprocity as well as polygamy to boost their participation in the yam value chain and have therefore become competitive in yam production. This research therefore, takes us into the specific activities the farmers are involved in so as to examine how the cultural labour practice they have chosen has impacted on their productivity as compared to their competitors of the same product.

## 1.1 Research Question

These are the questions that have been used as a guide to fulfil this paper, however the main question is:

**How has a particular labour organization strategy helped or hindered the “Pan” farmer to participating in the yam value chain?**

Nevertheless, these sub questions below will answered in order to give a clear understanding of the main question.

- a. Who are the major actors in the yam value chain and what is the relationship between them?
- b. What are the principal constraints to value chain participation by the Pan yam farmers?

## 1.2 Scope and Limitations

As earlier mentioned, this paper focuses on rural agrarian settings located in the Benue Valley of middle belt Nigeria whereby rural farmers have found themselves being part of the yam value chain within the country through a number of social processes.

Hence my research is geared towards a particular ethnic group called 'Pan' who just like many other farmers in Nigeria use manual labour for production

due to lack of technology with special reference to yam production. However, for these farmers they produce not just for subsistence purposes but also with a commercial goal in place, therefore they have several strategies involved including the use of polygamy to achieve these goals. Comparing to this group of farmers are the Eggon farmers, from the same geographical location who make use of wages to meet their own production target. However, these two groups were chosen because they are among the major groups of yam producers within the country and are located within the same region therefore making it easier to compare with out so many distinctions.

This paper therefore has utilized certain positions held by Robert MccNetting, (1968:157) who stated that, '*Social organization of subsistence activities must consider certain social rules for the use of resources and tools. As techniques improve and property takes on value these rules must grow in complexity and inclusiveness*'. However in this case the author gives his ideology from an anthropological perspective but for this research, I have taken this view on social organization to examine an economic phenomenon on value chains of a particular product, - which is yam - as well as the complexities involved which have included the Pan farmers into the chain. Although I shall go into the economic perspective, it is therefore not a complete presentation of the total economic outlook without going into the social discussions.

Furthermore, this paper will guide us through a number of governance issues to be examined due to a number of on-farm level relationships as well as relationships existing between the farmers and other actors that are involved in the yam value chain. In addition, a couple of economic and social issues will be discussed; pertaining polygamy, reciprocity and trust based on general assessment of the Pan people.

In conclusion, a number of gender issues will be highlighted in this research but not in-depth regarding this because the study is less oriented towards the ethical perspective of women. However, this is has been left open for further research.

The period of the field work research lasted from June to August 2012 therefore it was impossible to go in depth into other areas to find out the situation on the macro-level and meso level.

### **1.3 Methodology**

For this study, farm level data (qualitative data) were collected from a number of rural farmers from Pan and Eggon. This research was conducted in a typical rural farm settlement, in order to clearly observe and understand the labour processes of farmers and establish the most efficient group involved in the yam chain. In order to establish these facts, interviews were carried out with both groups, 7 farmers from Pan residing in various locations in the bush farms (known as "Wang"), including a focus group discussion with a group of farmers identified at the market. For the Eggon group, 10 farmers were also interviewed in order to compare the production processes of both groups from a settlement known as Sabon Gari in Nassarawa State.

Furthermore, a market survey was organized at different locations both nationally and internationally<sup>1</sup> to examine market prices for yam, as well as identify the various chain actors this constituted groups of traders, processors and transporters. All these were carried out in order to understand how the yam chain operates. In addition, a desk research was carried out on Value chains from other literature pertaining small-scale farmers with the aim of identifying similar existing theoretical issues within the area of study.

## **1.4 Aim/Objective**

The objective of this research is to investigate the constraints faced by non-mechanized farmers in the rural areas with regards to yam farmers of Pan who participate in the yam value chain. My interest therefore, is to discover if their particular socio-economic activity regarding labour organization in the production process serves as a benefit or hindrance to effective value chain participation.

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<sup>1</sup> A market survey was carried out nationally, meaning that I visited some major markets within Nigeria in Lagos, Abuja, Jos, and the local village market. Internationally, refers to an open market in the United Kingdom specifically, in London.

## Chapter 2      CONCEPTS, FRAMEWORK AND THEORETICAL DEBATES

This section brings us into a number of theories regarding value chains, which will be used as a framework to give a better understanding about what a yam value chain looks like well as the various processes involved. Secondly, we shall have a clear definition of governance structures in relation to economic terms as well as the factors that lead to a variety of governance relationships, which will help us clearly understand the governance relationships within the yam chain participants. In addition, we shall be looking at the meaning of upgrading as well as the four distinct types of upgrading strategies. We shall also have an overview on what the informal economy means as well as the social organization theory

### 2.1 Value Chain

The framework for this paper has been motivated by the global value chains theory. Therefore taking from the definition of Kaplinsky and Morris, (2000:4) a value chain is;

*‘a full range of activities which are required to bring a product or service from conception through different phases of production thereby integrating a number of inputs and services from the producer, to the supplier, down to the consumer and the final disposal after use’.*

The global value chain framework will be used in understanding how this domestic chain, which is traditionally motivated operates, a description of the yam value chain actors and their existing relationships will be discussed.

In recent literature, a number of authors have given various implications on value chains ‘In the realm of development policy and practice, the development of Global Value Chains [has been viewed as] instrumental for achieving desired outcomes such as poverty alleviation, entrepreneurship and decent labour conditions’ Helmsing and Sietze (2011:1). Alternatively, Other authors such as (Laven, 2011:122) see it as a phenomenon highlighting certain scenarios whereby ‘vulnerable farmers and women benefit marginally in the global value chain’. However, this paper will not be looking at a global value chain setting, but a domestic chain, which runs within a country, although, we will be looking at the various outcomes and implications of this chain on local yam producers within Nigeria.

Having come across series of literature, there have been a lot of research carried out on a number of small-scale farmers who are unable to meet up with the production scale as well as standard requirements and as a result, are being excluded from positions where the value is being added Altenburg in Laven, (2011:121). However, in this paper, the focus will be geared towards the various activities that have led farmers to be more efficient.

## 2.2 Governance

Value chains have been seen as a “conductor” enhancing information flows between various actors in the chain, which has resulted to quite a number of governance debates. These governance issues have everything to do with the complexities of power relations within the chain, which determine ‘... how financial, material and human resources are allocated and flow within the chain’. (Gerreffi in Laven 2011:9). Therefore, Schmitz (2001:5) has outlined four key parameters that define the production process of a product. These are:

1. ‘What is produced
2. How it is produced
3. When it is produced
4. How much is to be produced’

These key parameters will guide us to clearly understand what yam is all about, how it is being produced, at what season and the quantity. We are further going to take a look at reasons behind the ‘price’ of yam, of which Schmitz (2001:5) has described as the fifth parameter. This price therefore, determines who gets what, when and why? This will be a guide in revealing if the decisions the farmers make at the end of the day affect the prices they get.

Trienkens (2010:54) has mentioned that ‘firms are usually interlinked with a variety of sourcing and contracting which leads to the Governance concept of power relations’ of which Gibbon distinguishes ‘two types of governance structures within the chain these are; the producer driven chain and the buyer driven chain’. However, in this study the concentration is on the buyer driven chain, which does not consist of firms, which are interlinked, but a group of local farmers and businessmen. Thus this will help in unravelling the actors with the most control over the activities, as well as what is being produced, the quantity produced and the prices.

However, ‘in the 90’s Gerreffi et al, developed a framework called ‘global commodity chains’, that tied the concept of the value-added chain directly to the global organization of industries’, which led to the ‘importance of [chain] coordination’. Gerreffi et al, (2006:82), define chain coordination, ‘inter-firm relationships and institutional mechanisms through which non-market coordination of activities in the chain is achieved’. Humphrey and Schmitz in Laven (2011:123). This later, led to the birth of ‘five analytical aspects of governance types’ of relationships in existence within the value chains Gerreffi et al (2006:83).

These relationships therefore have been grouped into four different determinants of governance as shown in table 1 below. This shall be discussed further using the outline below, starting from the governance type, product complexity, ability to codify information, supplier capabilities and the degree of explicit coordination and power asymmetry.

Table 1 Category of Governance Relationships

<b>Governance Type</b>	<b>Product complexity</b>	<b>Ability to codify Information</b>	<b>Supplier Capabilities</b>	<b>Degree of explicit Coordination and Power asymmetry</b>
Market	Low	High	High	Low
Modular	High	High	High	Low
Relational	High	Low	High	
Captive	High	High	Low	High
Hierarchy	High	Low	Low	High

Source: GEREFFI ET AL., (2005:87)

1. Arms length market relations- This is the situation where neither the buyer nor the seller collaborate in defining the product therefore the supplier defines it without reference to any particular customer. Therefore; the sellers set the prices for buyers due to low levels of information exchange. This further leads to a low level of power asymmetries. Gerrefi, (2005:86).
2. Modular Relationships- This is when a product specification is relatively complex and standardized; there is very little information flow between the buyer and the seller. The supply is however, very efficient with a low degree of explicit coordination. (Ibid)
3. Network relationships- this refers to the cooperation between equals. 'When product specifications cannot be codified, transactions are complex, and supplier capabilities are high, relational value chain governance can be expected. This is because tacit knowledge must be exchanged between buyers and sellers, and because highly competent suppliers provide a strong motivation for lead firms to outsource' (ibid)
4. Quasi Hierarchy/captive relationships- In this case, product complexity is high as well as detailed instructions which lead to codification, therefore, Schmitz, (2004:4-5), states that 'global buyers set parameters due to product differentiations strategy in order to avoid the risk of supplier failure' due to the low capabilities of the suppliers. More also, a combination of cooperation through which asymmetrical power relations exist of which buyers dominate suppliers. (Ibid)
5. Hierarchical relationships- Vertical Integration where the buyer takes hold of all operations carried out due to the low competence of the supplier not just at the production level but it can also be in other areas. Gerrefi (2005:87)



Hence, it is important to note that these relationships above, will serve as a guide in examining the market coordination and existing relationship between the farmers in my research and other actors in the yam chain. Most particularly it will give a clearer view regarding the various efficiency levels of the farmers, the power relations between the producers and the buyers as well as the reasons behind profits made at the end of the sales in relation to the Pan and Eggon farmers.

## 2.3 Upgrading

In most value chains there are various actors involved these actors therefore, constantly make effort to improve their products or move to other sectors of the chain, Kaplinsky has therefore described it as 'Upgrading'. In relation to upgrading, Kaplinsky et al, (2001:5) stated that,

*'Many emerging economies have shifted their development strategies from simple export-oriented industrialisation to an emphasis on gaining access to higher value activities in global value chains.' Therefore, 'firm upgrading involves insertion into local and global value chains in such a way as to maximise value creation and learning. For the firm, this often means changing its array of competences by either bundling or unbundling value chain activities.'*

However, it is important to note that upgrading does not always involve high-industrialized technology, there are instances where by unavailability of technology has enabled groups of people to upgrade in their own low-tech way making use of cultural practices. Thus, this paper regarding yam production is going to unwrap certain 'economic upgrading strategies' although using social means, to become part of the competitive groups involved in the yam chain.

Although, Barrientos et al (2010:6), have specified, 'economic upgrading [to constitute] two dimensions', which are availability of 'capital', which has to do with 'technology', and secondly, is the 'labour dimension which requires the development of individual skills.' However, in relation to this economic ideology of technology, we shall later confirm in the research findings a different scenario, which clearly gives a contrast showing that there are other methods in existence, which can ensure competitiveness.

At this stage it is therefore necessary to understand the meaning of 'economic upgrading', according to Gereffi in Barrientos et al (2010:6), it is 'the process by which economic actors – firms and workers – move from low-value to relatively high-value activities in global production networks', this therefore leads us to the four upgrading strategies which have been described below.

1. **Process Upgrading**-This has to do with the transformation of inputs to outputs by reorganizing the production system or the introduction of high-level technology. In this case, we will see how have the yam farmers from Pan been able upgrade their production process despite the absence of technology? They have been able to produce thereby meeting large market demands across regions within the country. Gereffi et al, (2001:6)
2. **Product upgrading**- this has to do with the process of converting the product to more sophisticated lines such as the creation of niche markets.

In the case of the yam, there has been an upgrade in the product such as the yam being processed in to flour however; the farmers have not accessed this area of the market. Processing of yam is often done by bigger industries. (Ibid)

3. **Functional upgrading-** this requires acquisition of new functions or moving to other areas such as marketing, enhancing information flows etc. (Ibid).
4. **Inter-sectoral Upgrading-** Possibility of using acquired knowledge in a particular chain to move to another sector. (Laven 2011, Trienekens 2011, Schmitz, 2004, Gereffi: 2001). Finally, it is important to note that an aspect called ‘inclusive upgrading’, has been added recently as ‘the ability of the producer to create and control value’, Laven, (see example 2011:122-147).

Therefore, it is important to take into account these upgrading strategies that will serve as an empirical guide in understanding the meaning of upgrading in relation to the yam chain.

## 2.4 The Informal Economy

There are various schools of thought that have tried to conceptualise and define the informal economy. First is the ‘*dualist* school of thought’ who believe that the ‘informal sector belongs to the inferior part of the economy and will subsequently be merged to the formal economy. Bachetta, (2009:42). Secondly is the *Structuralist* school of thought that believe that the informal sector is linked to the formal sector in the sense that the ‘small firms and unregistered workers are subordinated by large capitalist firms’ (Ibid). Finally are the *legalist* schools of thought that regard informal workers as those who intentionally evade ‘costs associated with registration’ (Ibid).

However, choosing one of these definitions does not give a clear picture of what an informal economy comprises of, especially with regard to the case study to be further discussed below. Which is why I have chosen the informal economy concept defined by the ‘International Labour Office (ILO), in a joint effort with the International Expert Group on Informal Sector Statistics and the global network group WIEGO’ as an economy constituting,

‘...the self-employed in informal enterprises (i.e., small and unregulated) as well as the wage employed in informal jobs (i.e., unregulated and unprotected) in both urban and rural areas (ILO 2002, Chen et al 2005). So defined, informal labour markets encompass rural self-employment, both agricultural and non-agricultural; urban self-employment in manufacturing, trade, and services; and various forms of informal wage employment (including day labourers in construction and agriculture, industrial outworkers, and more)’ Chen, (2010:4).

This broad definition is useful therefore, in mapping out the various dimensions of informality existing within the yam chain, beginning from the yam production level to the various relationships existing within the chain. This will further give a clearer understanding on the position of the women employed in the yam chain as wives as well as farm workers.

In addition, to the informal economy definition, the term ‘social [organization is] associated with [ethnic homogeneity and residential stability] ...’ Mario, (2002:3) has been incorporated in this study. This is in order to have

a clear picture of the groups involved in this social organization of production, with special reference to the work place, which is surrounded by ethnic issues. Thus, the three dimensions of informality will be looked at to unlock these informal production processes within the value chain. The dimensions to be explored are:

- a. The Nature of production systems- 'the allocation of authority over work conditions and work outcomes' and secondly, the 'economic risks'. Chen, (2007:7)
- b. The Employment relations- between the employer and employee and the environment where this informality takes place.
- c. The Environment – This is where the informality takes place.

This will further give us an insight about ethical standards regarding the women workers in the field. But also, seems to be accepted within the broader community, as a way of life.

## Chapter 3      **BACKGROUND OF THE STUDY**

Having looked at the various theories above concerning value chains, governance structures and types of governance, upgrading levels as well as the informal economy and the social organization theory, it is now necessary for us to go straight into the a general background on yam, the importance of yam as a crop, the processes involved in production and also details, about the area of research. Thus at this stage the answer to the questions concerning some of the key parameter by Schmitz (2001:5) <sup>2</sup> in section 2.2 above will be answered.

### **3.1 What is Yam?**

Yam is a vegetable tuber from the 'Dioscorea'. 'There are hundreds of wild and domesticated Dioscorea species. White Guinea yam, *D. rotundata*, is the most important species especially in the dominant yam production zone in West and Central Africa. It is indigenous to West Africa, as is the Yellow yam, *D. cayenensis*, Water yam, *D. alata*,' IITA, (2012). Yam is however grown in Africa, Asia and some parts of Latin and Central America<sup>33</sup>. There are also various species of this product from the white variety; to the yellow and pink varieties but one common feature is the thick brown cover. It also has various names called by different people Columbia 'Yuca'<sup>4</sup>, the Indonesians call it 'Ubi'<sup>5</sup> and the French call it 'Igname'<sup>6</sup>.

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<sup>2</sup> What is produced? And how is it being produced? This refers to the yam tuber.

<sup>3</sup> Information acquired from course mates with origins from Indonesia, Japan and Columbia.

<sup>4</sup> Ximena Garcia (Yuca).

<sup>5</sup> Winda Paringbuan (Ubi).

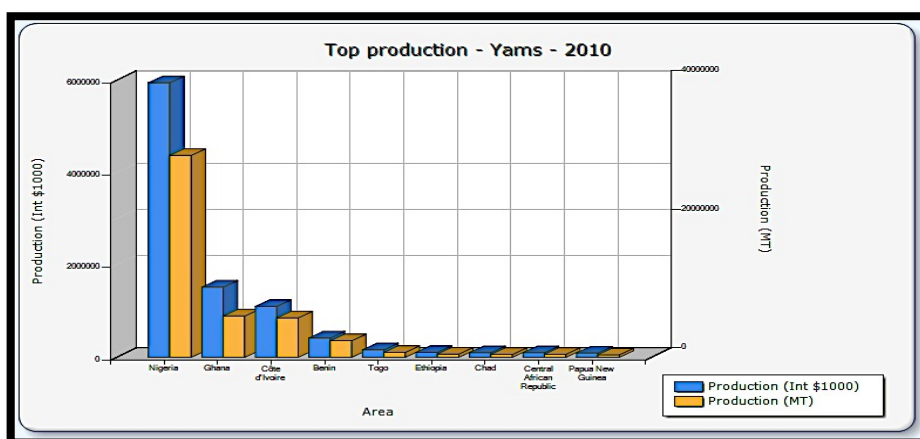
<sup>6</sup> Observation during my stay inTogo

Figure 1: Yam Tubers



Most of the yam produced comes from Nigeria, which is by far the 'highest producer and exporter worldwide (about 70% of global production) followed by Ghana and then Cote d'Ivoire,' according to the FAO statistics (2010).

Figure 2 Yam Export Statistics



Source: FAO, Statistics 2011

In Nigeria, there is a high demand for yam in terms of consumption Bamire et al, (2005:2). Yam is however, prepared in various ways such as boiled, roasted, fried or mashed as done with mashed potatoes or processed into powder for puddings or for other meals. The back of the yam is also used as feed for livestock; therefore all parts of it are useful. 'Yam tubers however, consist of about 21% dietary fiber and are rich in carbohydrates, vitamin c and essential minerals and are also low in fat' (IITA, 2012). Below is a table giving the nutritional benefits derived from 125ml of boiled yam, constituting protein, Glucose, Lipids, Fibre and Glycaemic load and also the total calories of 83.

Table 2: Nutritional Value of Yam

Nutrients	Boiled Yam half cup (125ml)/72g
Protein	1,1g
Glucose	19,7g
Lipids	0,1g
Fibre	2,8g
Glycaemic Load	Moderate
Calories	83

Source: Health Canada: Canadian Nutritional File, 2010.<sup>7</sup>

Also, it is important to note that in certain parts of Nigeria, yam has a cultural value and there is an annual yam festival to celebrate the importance of the crop this occurs mostly at the end of the rainy season between August and September whereby a date is fixed by the elders of the community and families go out to harvest the product, it is often called new yam festival<sup>8</sup> although this celebration occurs predominantly in the southern parts of Nigeria.

Furthermore, yam does not only have a traditional value of consumption but it is also used for 'industrial purposes in Europe as an adhesive used by producers of cartons, packaging companies as well as leather and shoe producers'. Ayemibo, (2010)

### 3.2 Production Process of Yam

Yam happens to be the major cash crop cultivated by certain groups in Nigeria for money as well as food. Most farmers make use of family labour although Wage labour is also included but this depends on the particular group of farmers involved. Generally, the work done on the yam fields are manually done because there are no machines available to make the heaps. However the information on the production process given for this study was derived from the farmers interviewed during the research process.

Yam production is done only once in a year therefore, every year, it is planted on a new field so that the old one can fallow. The yam produced in the area of research takes about 6 to 8 months before it gets spoilt which makes this particular specie available all year round. The production process for yam requires 6 different processes. The first stage requires the clearing the field, although this is done after millet and guinea corn have been harvested. However, the clearing does not require breaking down the guinea corn sticks

<sup>7</sup> The original information derived was in from a Canadian website this is the original source. (Santé Canada. Fichier canadien sur les éléments nutritifs, 2010).

<sup>8</sup> A short video giving an example of the new yam festival in Anambra State, Nigeria, can be found in the website below (Agendainterculturelle: 2011) <http://www.youtube.com/watch?v=s4lO2-hDR5I>

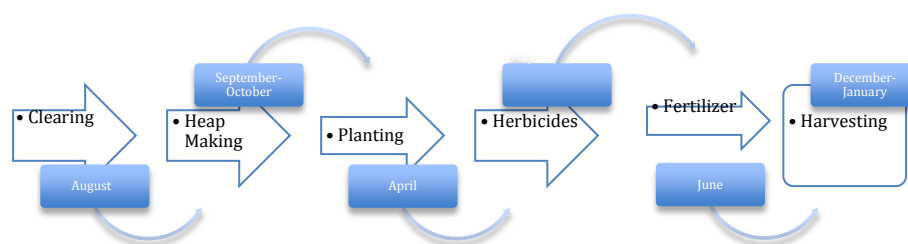
because these are normally used as artificial supporters for the yam vines to train.

The second level requires making of mounds that is often called ‘heaps’ by the people and this is the most difficult part of the production process. These heaps are often made at the end of the rainy season when the soil is still soft, after which groundnuts and beans are planted on the same field and later harvested before the rains begin. Furthermore, the field used for production is usually measured in hectares therefore; about 1800 heaps would cover a hectare of the farm.

The next routine involved is the planting of the yam seedlings. This occurs at the beginning of the rainy season in April. This is followed almost immediately by the application of herbicides, which is done in May just before the seeds fully germinate. After the herbicides, the need to apply fertilizer on the field is important to ensure adequate growth of the crop this is therefore done in the month of June. Yam however, is planted one per heap but at the end of the season there are different sizes of tubers while some may produce one very large tuber, others are able to produce 2-3 tubers respectively.

The final stage of the production process is harvesting of the yam. This is therefore carried out between December and January. After which the yam is covered on the field with grass for some weeks before returning to gather them up to the market for sale, or further storage around the house using dry grass.

Figure 3: Stages Involved in Yam Production



Source: By Author

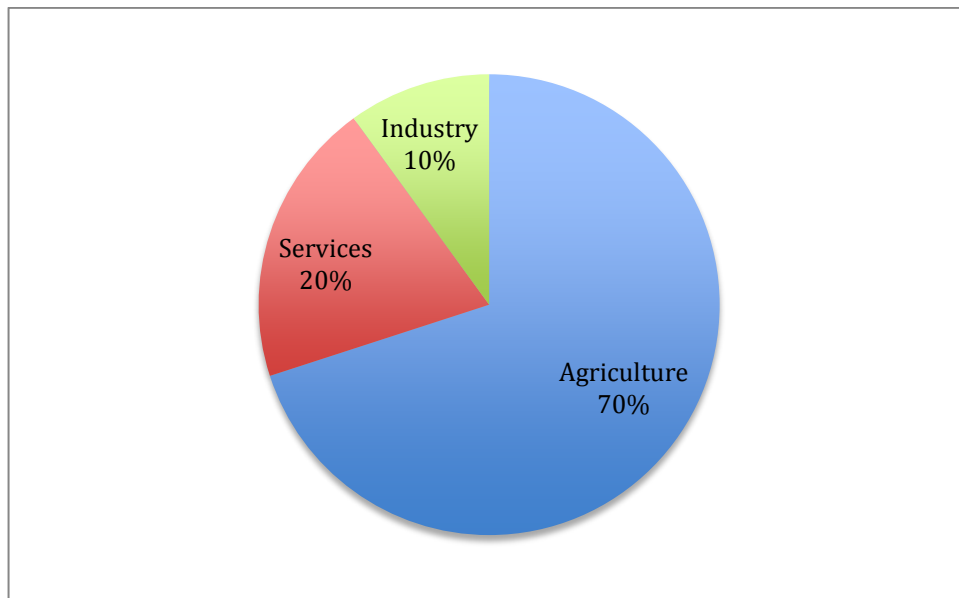
### 3.3 Study Area

#### 3.3.1 Country Specifics

Nigeria is located in the Western part of Africa with 250+ ethnic groups. Nigeria has a population of about 158 million with 36 states. In Nigeria, three distinct ecological zones exist, these are; the mangrove forest to

the south, the rain forest in the middle belt region and the savanna to the North. The middle-belt region is however, well suited for production of crops such as yam, cocoyam, vegetables, potatoes and a variety of grains. The bulk of the agricultural products in this area come from manually cultivated crops. Figure 3 gives of a picture of the Nigerian employed labour force with given 70% working under the agricultural sector, 20% in services while 10% belonging to the industries. However it is important to clarify that this is only percentage of workers in employment, therefore the unemployed do not constitute the ratio below. (EON, 2012; Manyong, et al 2001)

Figure 4 Nigeria: Total Employed Labour Per Sector



Source: CIA - The World Fact Book 2012

### ***3.3.1 Specific Study Areas***

The Pan and Eggon are both located within the Benue Valley of Nigeria. There are generally two weather conditions experienced in that part of the country, the wet season, which starts in April and ends in September and the dry season that begins from October to late March. However, the major indicator, which shows a distinction between the two groups, is the language spoken, the Pan speak a language which is derived from 'Chadic' Stone (1996: 188) origins while the Eggon speak a language which originates from the 'Niger-Congo languages' Lewis, (2009). However, majority of the population in both groups are farmers.

The Pan people have their origin from Qua'an Pan local government area one of the 17 local government areas in the Southern part of Plateau State. The State is located in the middle belt region and has about 40 ethno-linguistic groups. According to the NBS, (2012:73-74), the state happens to be the highest producer of yam in the country with an output of '63.8%' annual production. The State has a tropical weather condition but with a higher altitude due to the hills within the area that gives the State its' name 'Plateau'.



The Pan people were popularly known as the “Kofyar” the name of their original hilltop settlements from the previous works of Robert Netting and Glenn Stone<sup>9</sup>. They have a history of having their homeland in the hills before moving to the plains due to land pressure for farming. Although, all the existing localities constituting the Doemak and Merniang communities accept to have their origins from the hilltop (Kofyar), the kwalla communities claim to have their origins on the plains. The Kwalla have asserted that they are not historically from “kofyar” and therefore all groups have agreed to use the name “Pan” instead of Kofyar. Thus it is important to note that, the name ‘Pan’ meaning ‘togetherness’ is used by these groups of people to identify themselves as being part of one community speaking a mutually intelligible language.<sup>10</sup>

The Eggon nevertheless, constitutes one of the ethnic groups found in Nassarawa State under Lafia, although they are found in several of the 13 Local Government areas in the State. Nassarawa state however happens to be one of the highest producers of yam with an output of about ‘44.16%’ NBS, (2012:73). The State has a tropical climate, which is predominantly humid with a landscape that constitutes lowlands mostly in the Southern parts. The Eggon people who are wide spread across Nassarawa State and are located in Akwanga, Lafia, Kagbu and many other areas within the State. These people are known to be hard working and also engage in a variety of farming activities.

Table 3 gives us a general overview of the place of origin of both groups interviewed (Pan and Eggon) which have been characterised based on Location, Agricultural occupation, Temperature, Farm produce, annual rainfall in millimetres, soil type and vegetation.

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<sup>9</sup> ‘Kofyar’ refers to the name that the hill farmers in the region, were referred to in the Past by people as well as anthropologists such as Robert Netting (1968) and Glenn Stone (1996). Currently, they are all called Pan.

<sup>10</sup> Pan is a political unit (Chiefdom) created for all the tribes that speak the same language and have the same culture whether descended from the kofyar hilltop settlements or not. For all other practical purposes, Pan and Kofyar are identical. This information was obtained by the author from the interviews.

Table 3: Study Area Information

	Pan	Eggon
<b>Location</b>	Benue Valley (Plateau State) <sup>11</sup>	Benue Valley (Nassarawa State)
<b>Key Occupation</b>	Farming	Farming, Trade
<b>Temperature</b>	About 18°C -22°C in the cold seasons and about 28°C to 32°C in the warm seasons.	Ranges from 20°C during the cold seasons and 34°C in the warm seasons.
<b>Farm produce</b>	Yam, millet, Sorghum, Peanuts, Guinea-corn, Rice, Sesame seeds, Maize.	Yam, Melon seeds, Rice, Banana, Watermelon, Cassava.
<b>Rainfall</b>	1317.5mm to 1460mm	1100 mm to about 2000mm.
<b>Soil Type</b>	'Limestone, sand stones and shales' Cameron and Tomka, (1996:75)	'Category of oxisols or tropical ferruginous soils' (Nyagba, 1995). With loamy soils of volcanic origin.
<b>Vegetation</b>	Southern Guinea Savannah Zone (Udo, (1970:4).	Guinea Savannah Zone

Source: Multiple data sources<sup>12</sup>

<sup>11</sup> The Pan people originate from Plateau state but most of them are scattered across various states within the middle belt such as Taraba, Benue, Abuja, Nassarawa etc.

<sup>12</sup> The data on the table was gotten from sources ranging from, documents to various Government Websites of Plateau State and Nassarawa state including information derived from interviews with farmers.

## Chapter 4 EXAMINING THE YAM VALUE CHAIN

In chapter 3, information was given about yam, the processes involved in cultivating the product, and a general overview on the study area was given to familiarize us on the next level of our discussion. However, in this chapter, we shall be discussing various results derived from the field research conducted across the yam value chain sector in Nigeria. This will contain the chain activities, followed by the market information, the actors and the general governance structure of the chain and the limits to upgrading yam as a product.

### 4.1 Yam Value Chain Overview

This stage gives us an idea of the activities that go on within the yam value chain. This is grounded on the field research carried out at various market levels within the country<sup>13</sup>. This will give an idea of the different activities experienced within the yam value chain, starting with the level of inputs, production stage, Transportation, Wholesale/Retail, and down to the Processing level.

First of all is the *input stage*, which constitute the land for planting, which is mostly inherited from parents or rented this, therefore depends on the region. The major requirement at this stage is the yam seedlings and all the working equipment such as big hoes for making the heaps and cutlasses and other input supplies such as fertilizer, herbicides etc. required at the level of the production process.

Secondly, it is important to clarify that; at the *production stage*<sup>14</sup>, is occupied by a large number of small-scale farmers who work in fields that are in the bushes mostly areas with poor road networks. At this level, the farmers engage in clearing the land for production, planting, application of herbicides and fertilizer, gathering of steaks for the yam vines and finally harvesting.

The next level requires the movement of the farm produce to the market, which is called the *transportation stage*, at this level the farmers choose the location where they plan to sell the yam tubers. Although in certain cases, buyers come to buy the tubers on the farms therefore, it becomes the responsibility of the buyer to handle transportation. However, in order to move this yam from the farms which are mostly in areas with poor road network, a small truck or pick up goes to the farm in order to get the yam up to the main road or local market. Nevertheless, in situations where the farmer has a lot of yam tubers, a 24-tyre truck is required; to transport these to the market. In order to achieve this, a small van or 'pick up' truck goes into the bushes (this is because a big truck cannot get in due to the bad roads) and gets loaded with the tubers, after which the 24 tyre truck waits along the major

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<sup>13</sup> I visited a number of markets in Nigeria (Lagos, Abuja, Jos, Qua'an Pan) and gathered information from the traders (wholes sale/Retail), transporters and Processors, based on qualitative interviews.

<sup>14</sup> This is referring to the production stage in Nigeria.

tarred road for the smaller truck to return and reload unto the bigger truck. This happens several times until the 24-tyre truck is filled up. Afterwards, the yam gets transported to the required destination of the person in responsible for the tubers. Moreover, there are a number of destinations, which the transporters take these tubers, some of it goes to the local village market, some to the nearest city market and others to state or regional markets to be further exported. Nigerians and a lot of West Africans consume yam in large quantities therefore, the Yam from Nigeria does not only go to markets within the country but also to neighbouring countries as well as markets in the United Kingdom. Ayemibo (2010)

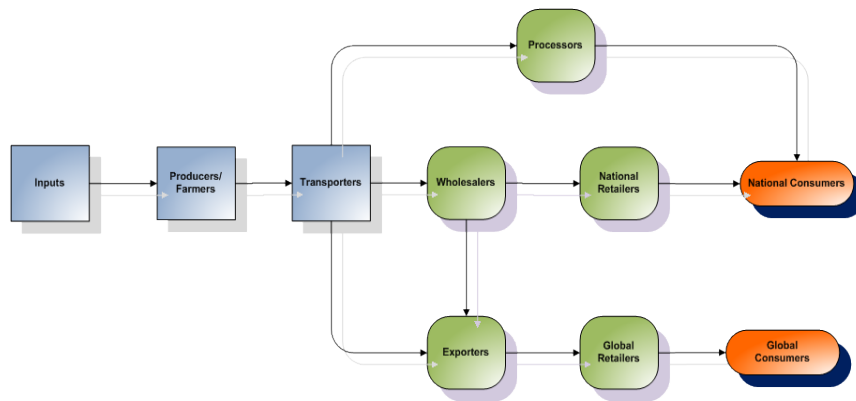
Having passed through the transportation stage, the next level is the *wholesale and retail stage*, whereby the yam tubers are sold through various channels to the final consumer. The wholesale level constitutes groups of traders and middlemen who engage in selling in large quantities to either retailers or the processors. The retailers further sell to consumers or other buyers determined to buy in small quantities in order to resell again.

At the *processing level*, there are two varieties; the local method that is done locally at the markets using a dry grinding machine (though this was observed in only one market in Lagos) and it is sold within the market using a small bowl to measure the quantity to be sold out. However there is also the modern method, whereby big industries purchase yam in large quantities either from the wholesalers or middlemen, however some of them have their own farms although they still have to buy to add to what they have as it is insufficient. This however, is done in large scale, requiring formal registration, standards and proper packaging. After packaging the yam is taken to the warehouse whereby it is further sold to the retailers and then the final consumer.

Finally is the *consumer stage*, whereby yam is bought in little quantities from either the bigger retailers at the market or the other smaller ones at various locations outside the markets place. However, most processed yam is bought in shops and supermarkets this is mostly found in big cities.

Figure 5 below shows how the yam chain operates as well as the flow of all the processes from one level to the other through various markets.

Figure 5 Yam Value Chain Diagram



Source: By Author

## 4.2 The Yam Market

In section 4.1 above, we were able to see the various activities involved in the yam chain and the general flow of events. At this stage, we would go into a brief discussion about the yam market context in order to see the value addition at the various market levels, which is as a result of the location.

There are quite a number of yam markets within Nigeria due to the fact that a large number of Nigerians consume the product. In Nigeria, there are a number of markets ranging from the local markets found in the rural areas, to the city markets and then the large national markets in certain regions. Yam can be found in almost every major market within the country, it is also interesting to note that this product it also found in some international markets from my observation in the United Kingdom and the Netherlands.

Although yam is being processed, not all individuals within the country are aware of the yam powder not even the producers know what it looks like when packaged. However the preference of most people is the raw yam. How ever due to the fact that people have become very busy and very few people are interested in spending their time pounding yam this has become very handy for lovers of pounded yam.

Table 4 below gives an example using the various markets visited and the price distribution at market level. In the table, an average piece of yam was assumed to be about 9 kilos. Although not all pieces of yam are 9 kilos but this was used in order to have an idea of the price distribution at various levels and locations. However, it is important to note that the currency used in the United Kingdom is the Pounds sterling while in Nigeria it is the Naira, but in order to have a uniform price range, Euros have been used therefore a conversion of currency was carried out for both groups.

Table 4: Price Distribution Of Yam

Price Distribution (per 9kg)	United Kingdom	Lagos Nigeria	Jos Nigeria
Raw Yam	€44.46	€2.89	€0.38
Processed Yam	€45.00	€19.62	€18.00

Source: By Author

This table therefore shows the prices of raw yam as well as the processed yam at different locations. We can see that there is a higher price on the value addition of the processed yam as well as the market location.

The value addition for raw yam at this stage reflects on the basis of location, that is, the farther away from the source, then the higher the price to be paid. However, for the processed yam the price is much higher due to the processes involved in realizing the finished product. Therefore, the price of processed yam is not just based on location but also due to product differentiation.

### 4.3 The Actors In The Yam Chain

After looking at the yam chain and the processes involved in production of yam, and the market context and the various determinants of value addition, at this level, it is important to have some insight about the major actors involved in this process and the reasons behind the prices. In addition, we shall have more insight on how the yam chain operates as well as the markets. Thus, it is important to note that every actor in the chain has a specific role in this commercial process.

#### 4.3.1 *Farmers*

At the production level we have mostly groups of small-scale farmers either informal landowners who produce their crops or informal contract workers working for other big farmers or processing industries. However there are farmers who function individually, or as a group, or in peculiar cases such as social arrangements as in the case of my research area. Most farmers engage in different levels of reciprocity amongst themselves to boost production. More also, the poorer farmers who have no yam seedlings become employees for the bigger farmers.

In addition, some smaller farmers prefer to leave their yams on the farm and wait for someone to come and buy, due to the cost of transportation as a result of geographical location as well as poor road networks. However there are also other farmers who take their yam themselves to the market and sell through the middlemen at the market. The farmers generally, communicate with the middlemen and have very little relationships with other parties in the

chain. Most farmers sell their yams in a wholesale of hundred tubers called 'gora'.

#### **4.3.2 Middlemen**

The middlemen belong to the wholesale stage, thereby playing a vital role in the markets as an intermediary between the supplier and the buyer. At the national and local markets respectively, they serve as intermediaries whereby the farmers are dependent on the middleman to link them up with various buyers, but in this case, all negotiations are carried out between the buyer and the middleman. Nevertheless, at peak seasons, the middlemen serve as informants to the farmers through phone calls so that they can bring their product to the market. There are also certain instances, where the middlemen go from one farm to the other buying yams from farmers either on their farms or at the local market although most often on credit. These middlemen sell to various customers as well as processors.

#### **4 Processors**

Most processors however, buy yam tubers directly from farmers or middlemen so that they can get it at the cheapest possible rate before transporting it to their industries. Most of the processors have informal contracts with the various farmers who work on their farms, however, this is not sufficient enough to produce the required amount needed therefore the need to buy more from the markets mostly through the middlemen. The processors mostly constitute skilled workers from a range of machine operators to a group of management and business experts.

#### **4 Consumers**

The consumers are those who drive the various activities in the chain as well as the final disposal. They are very important based on the prices that will be fixed on either the yam tubers or the processed yam. In addition, they are relevant in terms of demand and supply, that is, if the demand for yam is high then there will be an increase at the production and processing level. In addition, More also, it is important to note that prices are fixed based on the readiness of the consumer to pay this is often determined by the location and product specification.

#### **4.3.5 Exporters**

Most yam exported from Nigeria goes to neighbouring African countries as well as across the African borders. However, based on the interviews carried out, some of suppliers stated that the yam tubers exported out of the country are informally and illegally carried out although 'The major export market for yams from West Africa include Europe (England in particular) and the United States of America' Ayemibo, (2010). Unfortunately the Nigerian Bureau of Statistics has very little information concerning yam exports from the country.

### 4.3 Governance Processes

Having understood how the yam chain operates, the markets and the value added at the various locations, as well as the identification of the various actors and the roles played by each in the chain, it is now necessary to look into the various governance relationships in existence within this process. Hence, regarding the yam chain, the governance structure will be examined with emphasis on the governance type, product complexity, and ability to codify information, supplier capabilities as well as power asymmetries with reference to section 2.2 above.

First of all, at the input level, there are quite a number of suppliers therefore, these can be gotten from several outlets in the local markets therefore; the relationship between these suppliers of inputs and the farmers is purely market driven, the farmer and the transporters, as well as the relationships between the trader and consumer therefore, it is less complex than the relationships existing between the producers and the traders, which is why at this stage the focus will be geared towards the producers and traders it is also important to note that all transactions discussed are carried out informally.

Secondly, yam which is a purely agricultural product; especially at the raw stage has a very low complexity level because there is nothing technical attached to it and also due to the fact that there are no standard requirements regarding the product in the Nigerian market and anybody can start up a yam farm and compete. The only differences in existence is the consumer preference towards 'old yam' (it is yam which has been kept for some months after harvesting and it is often sweeter), there are also varieties of yam in the markets but most of them last for only two to three months therefore there is also a preference for those tubers which come from the Benue valley because they last for about eight months or more. However there is also the new yam which is also consumed and it is far cheaper than the old yam.

Thirdly, with the information gotten from the interviews, the ability to codify information is very high most especially with respect to the relationship between the producers and the middlemen/traders. This is because the traders work within the market and have become specialized in what they do therefore they can choose which of the suppliers to partner with. More also the number of suppliers surpass the number of middlemen/traders therefore this puts the suppliers at a lower level, that is, to the advantage of the former who then has control over the chain.

However, based on the interviews carried out, these situations have pushed the suppliers to build some form of relationship with the buyer making it look like some kind of relational type of governance, of which Gereffi et al, (2005:86) describe as; 'The mutual dependence which then arises may be regulated through reputation, social and spatial proximity, family and ethnic ties, and the like.' However it is important to note that these middlemen hold the power because most of the producers are dependent on them to ensure the yam tubers are sold or else it will get rotten thereby making the farmers price takers. Therefore at the end it is a purely hierarchical relationship between the producer and the supplier, despite the seemingly relational outlook.



## 4.4 Upgrading Processes

After looking at the governance structure of yam the various activities and relationships, it is important to take a look at what upgrading actually means in the yam sector. In the yams sector, based on the research carried out, upgrading means three things, this could be product, and process and functional upgrading this can be seen in the diagram below.

At this level, we shall see how far the various actors have gone with regards to upgrading in the yam chain. Starting with *Process upgrading*, this is reflected in the labour organization of the famers, consisting of the various methods utilized at the production stage, in order to increase efficiency and effectiveness and volume.

Secondly, *functional upgrading* is achieved by the farmers engaging in a number of other activities outside production in order to capture more gains at other ends of the chain. In the past, things were a bit more different whereby, most farmers waited for buyers or middlemen to come to their farms and buy directly, though it is important to note that some still engage in it. However, in recent times, the farmers take their yams from the farms to the local, city or the national urban markets therefore they have moved from just farm level supplier to market supplier in order to make more profit.

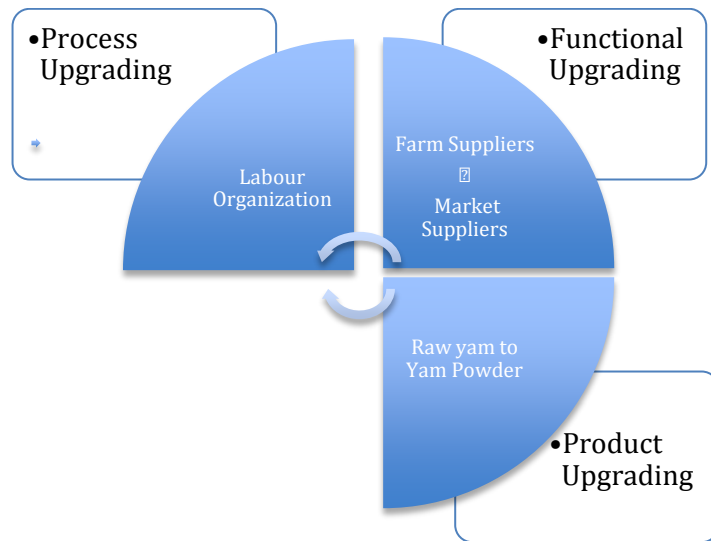
When it comes to *Product Upgrading*, whereby the raw yam is being converted to a more sophisticated product, which is yam powder, the farmers are not engaged in this process. However, a highly educated elite group whom process the yam utilizing machines and high tech equipment for drying and crushing to the powdered form. This started as a result of consumers abroad who prefer to consume pounded yam<sup>15</sup> a popular meal in Nigeria, but these facilities are not available therefore the yam powder came in handy making it easier for the people to buy from supermarkets and prepare in 5-10 minutes. However, this yam powder is more common in the big cities in Nigeria and abroad than in the small cities and rural areas. However it is important to note that upgrading in the yam sector is mostly pushed by the factors of demand and supply.

Figure 6 gives us a quick overview of the various existing levels of upgrading that were researched, however, there were no observations made of inter sectoral upgrading therefore my data is limited to the information given above.

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<sup>15</sup> Pounded yam, is yam that is boiled and then bounded manually using a mortar and pestle till the yam becomes completely smooth and very sticky, this is however time consuming.

Figure 6: Upgrading in The Yam Chain



## Chapter 5      Labour Implications

The first few chapters have given us an idea of what yam is, the importance, the area of study, the value chain context both processes and stages, as well as the actors, and the various relationships in the chain. However, at this stage, we are going to examine a number outcomes revealed during the field research, with reference to the two groups of study located in the Benue Valley.

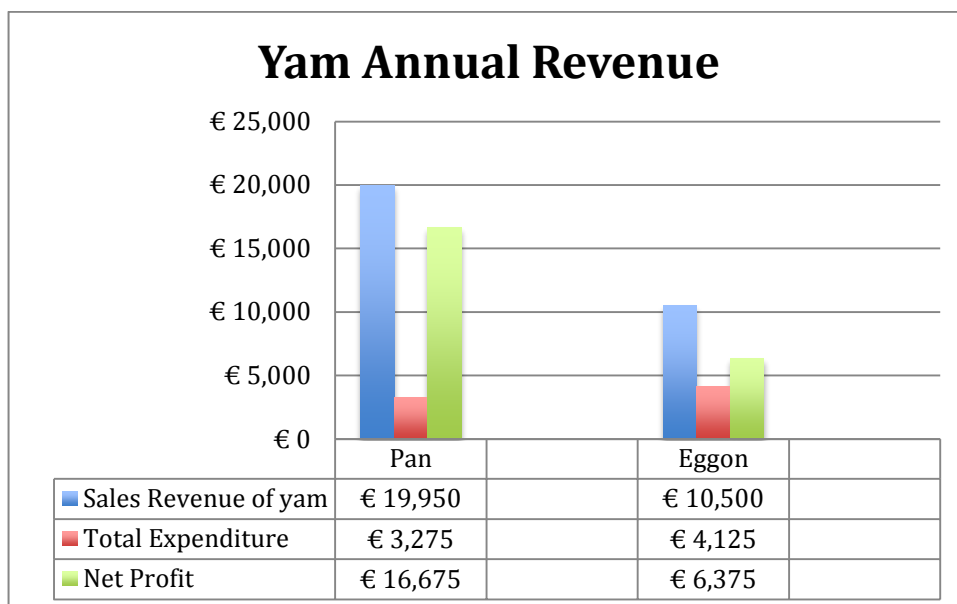
Therefore, at this level we shall attempt to answer the main question of this research that is; how has a particular division of labour helped or hindered the Pan farmer to participation in the yam value chain? We will first begin with a description of the social organization of labour. The importance of upgrading at this point is to meet up with market demands.

First of all, the indicative annual revenue of yam will be taken in to account, this will further take us into discovering why different cultures react differently to labour organization and examine the various techniques used by the farmers in order to make themselves competitive in the yam market. Also, the impact of labour cost on profits will be determined, as well as the comparison across the total expenditure of yam from both groups will be examined. Thus, in order to understand these two groups, and the impact of various significance of labour, it is important to know what they get from the yam chain that keeps them devoted to this venture.

### 5.1 Total Revenue of Yam

In Figure 7 below, we can see the total revenue from the sales of yam from both the Pan and the Eggon based on 7000 tubers which is roughly the equivalent of a truckload.

Figure 7: Comparison of Yam Annual Revenue (Basis - 7000 tubers)



Source: By Author

The first cell gives the total profit made from the sale of yam tubers at the market whereby, the Pan make a profit of €19950.00 while the Eggon farmers make €10500.00. The next cell gives the total expenditure of €3275.00 for the Pan and €4125.00 for the Eggon. After deducting the total expenditure from the sales revenue, the Pan farmers are finally left with €16675.00 while the Eggon remain with €6375.00. Therefore we are able to see the wide margin on the profits made by the Pan over their immediate competitors.

Therefore, at this level, it is necessary to ask; why do the Eggon farmers make far less profit than the Pan despite the slight differences in total expenditure? However, this question will be answered at various stages in the subsequent sections to give a clearer understanding, this will therefore begin with the major topic which is labour organization.

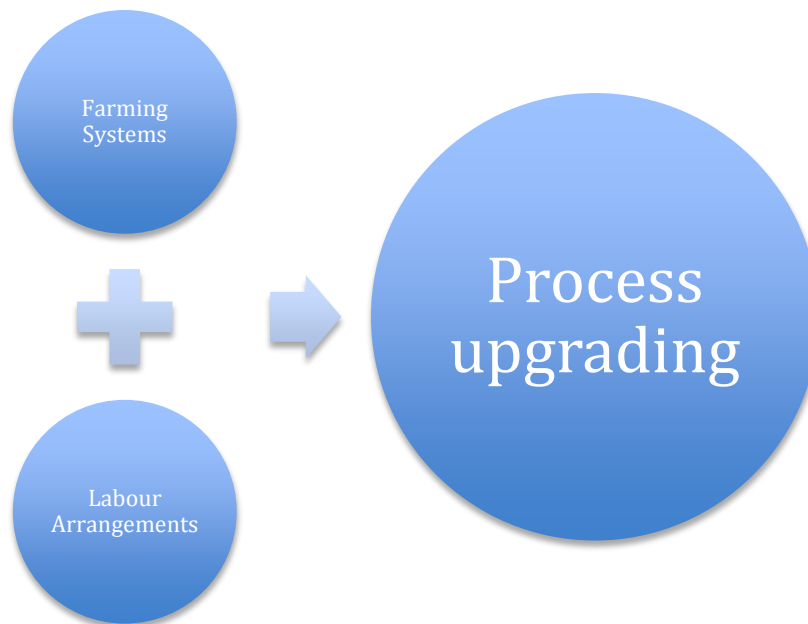
## 5.2 Social Labour Organization of the Pan Farmers

In yam production, there are no machines available for work to be done efficiently therefore farmers need to find better means of production in order to meet up with the market demands. At this level, the global value chain framework is not insufficient in understanding how the yam value chain operates. Therefore the peculiarity of this chain requires certain aspects such as geographical and cultural behaviours to be captured in order to have a clear understanding of how this chain operates. It is also important to understand the differences in the organization of labour by the Pan people and their competitors the Eggon so that we can understand their production process and how they operate in the yam value chain in order to determine the differences in profits made.

Figure 8 below, gives us an idea of what process upgrading means to the Pan farmers. Farming systems in this case, refers to the geographical location

of the Pan farmers while, farming arrangements has been used to describe the various ways which the farmers organize labour. Therefore the combination of the two results to process upgrading as earlier explained in chapter 2.3 above.

Figure 8: Overview of Upgrading Strategies



Source: By Author

### ***5.2.1 A Background Of The “Pan” Social Labour Organization (Historical Review)***

First of all, it is important to note that; certain factors determine people to relocate from their home origin one of such is ‘land pressure’ Stone (1996:79). Therefore, some of the Pan people who originally lived on the hills came down to the plains in search of fertile grounds for production, after a certain period, these areas became populous therefore there was a lot of pressure on people to search for more productive land. These people subsequently, they moved to areas like ‘Namu and places around the Benue valley which were practically empty and acquired land for building and farming’ Stone, (1996:79-80). Secondly, there was also the need for more food hence, in earlier centuries the most populated areas ‘raided’ villages that were less in number but had more food and took away their agricultural produce. Netting in Stone, (1996:80)

According to Stone, (1996:80), ‘... the most important catalyst for frontiering was to earn profit on the agriculture. He also stated that the economy of the people had been slightly ‘monetarized’ since the early 20<sup>th</sup> century’. The farmers in ‘Kwalla’ had already started trading activities of woven

mats, palm oil, and agricultural implements since Glassan in Stone (1996:80) '1912 after their first contact with whites'.

At the beginning, Pan people were mostly subsistence farmers however, Stone (1996:81) mentions two impacts of the colonial rule that pushed them to diversify; 'infrastructure and urbanization,' which created a market for the 'agricultural surplus' of the people. More over, there was no hindrance by the colonial government<sup>16</sup> or any subsequent leaders to stop the people from expanding their territory; instead farmers were encouraged to move to plains in order to produce for the growing population. This however gave room for the people to chose where to settle, thereby moving at their own pace. In addition, in the case of the Pan farmers, farm locations are usually very important, this also determines what will be produced as well as the amount to be produced. Stone, (1996:81-86). The history is therefore important in making an understanding of the geographical shift among the Pan farmers.

It is necessary to understand the geographical shift, which occurs among the Pan people. This will give an idea of how this movement is organized and why it is done. The three distinct systems are Mar lang, Mar goon and Mar Wang.

1. 'Mar Lang'<sup>17</sup> – These are farms, which are relatively, close to the residential area of the people sometimes located just behind their houses or 1 kilometer away. Therefore, the farmers produce only crops in small quantity for home consumption.
2. 'Mar Goon'<sup>18</sup> – Secondly, the people also have farmlands, which are located about 5 kilometers or more from where they reside but still within the community. In most cases products like rice and millet are produced in such areas.
3. 'Mar Wang'<sup>19</sup> - Finally, they have the migrant farms constituting huge plots of land in bushes where a lot of yam production takes place. In most cases, these are the areas where the Pan people produce substantially for commercial purposes.

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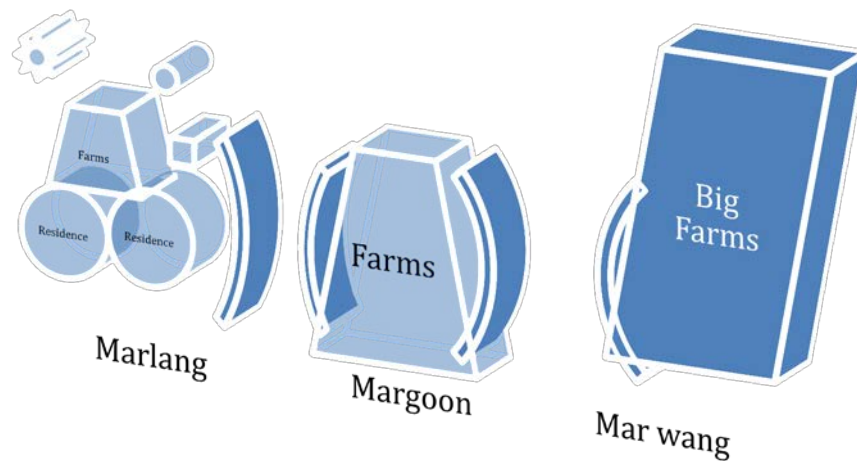
<sup>16</sup> Colonial government refers to the British.

<sup>17</sup> Mar in all cases means farm. 'Lang' in this case means close

<sup>18</sup> Goon refers to distance

<sup>19</sup> Wang in this case means not home or away from home.

Figure 8 Geographical Positions Of Farms



Source: by Author

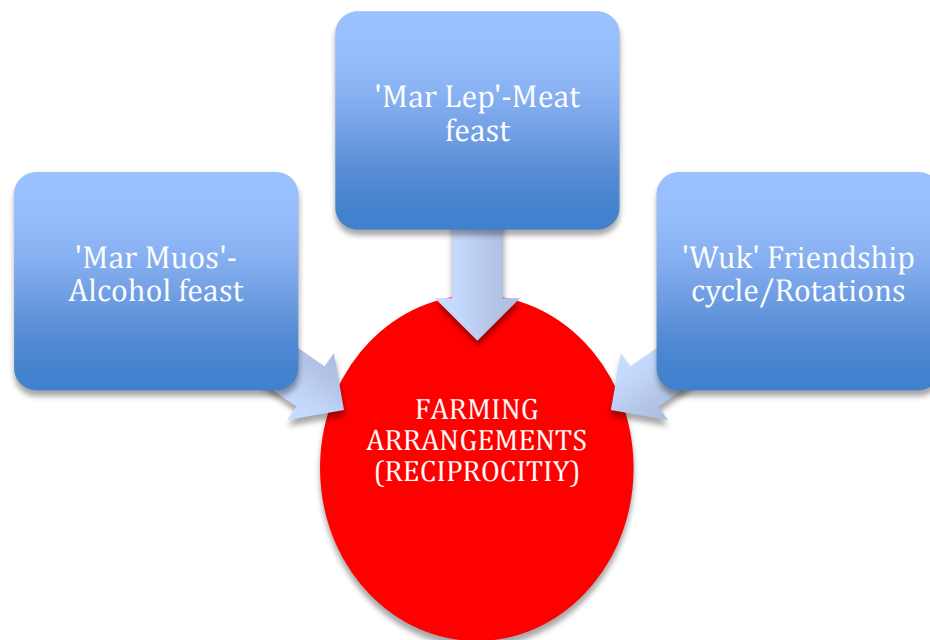
Moreover, it should be noted that, the farmers who relocate to new settlements for farming purposes build small huts on their farms, whereby they reside with their family although. A major indicator of identifying the Pan farmers wherever they reside is their language.

### 5.2.2 “Pan” Labour Arrangements

Due to the multiple farm locations and sizes, this has pushed the Pan farmers to upgrade their production process by having more hands on the field for efficiency and management purposes. More over these labour strategies include social processes that do not require wages and also family labour. Which have been proved to be quite effective. For this study, 2 farming arrangements have been identified, the first is reciprocity which constitutes three distinct farming arrangements and secondly family labour. The *reciprocity*-farming arrangements have been identified amongst the Pan farmers, these include:

1. Mar Muos (Alcohol farming feast)- This is the process whereby the head of a particular household organizes some local beer and invites his friends or neighbours to his farm for work. This beer serves as a motivation for the people to engage in the work willingly. Muos however, is a very important drink in the lives of the people it is beer produced out of millet, guinea corn, or sorghum and served even in the early hours of the morning.
2. Mar Lep (Meat farming feast) – This is a situation where the household organizes a barbecue with some Muos and invites his neighbours or friends to come and help him work.
3. Wuk (Rotational Farming) - These are farm rotations and agreements amongst particular groups of farmers this is done mostly between extended family members and friends. Whereby work is done on a particular persons farm until it is completed and then they move to the next person farm and they go round till they are done with the last person’s field.

Figure 9 Farmer Relationships



Source: By Author

Secondly, is the *family labour* arrangements, which, is the major source of labour existing on the farm it is the most dominant form of labour that is, about '74.5%' Stone (1996:62). This is cheap labour that is readily available to the farmers. More also, one may state that, most of the farmers engage in polygamy in order to have the required number to assist with farm work in order to acquire more wealth. Daboer, (2012)<sup>20</sup> stated that the numerous wives ranging from '2-100 amongst the Pan people have been acquired over time due to the wealth generated from farming'. At this stage, it becomes a bit complex in identifying whether these processes are for strictly economic or social gains as well. Obviously, having a lot of wives also means having a lot of children. These children therefore once having attained the age of puberty they must be engaged in the farm work – and that is definitely an economic benefit.

However, there is a lot of prestige and respect granted to a man with many wives. Also, one of the respondents also stated that most of the women married to the Pan farmers that are not originally from the Pan community are called 'Shim Yong' literary meaning 'called by yam' or 'attracted to yam'. These show that the social benefits of prestige and respect may also be an attraction to have many wives.

<sup>20</sup> Fidelis Daboer (Respondent) is an Economist from the Pan community who in the past, was engaged in the yam farming process. He was contacted in order to have a clearer view on the entire process.



However, one of the respondents<sup>21</sup> from Pan interviewed who had 8 wives and 48 children making the total family size 57 mentioned that, “each wife is able to make at least 100 heaps in a day which is very good but there are also other women who are stronger and can do more”

Although, this is a family labour arrangement, social structure have been put in place to ensure fairness within the family members. Therefore, in order to avoid free riding or laziness, a method called “*Mar Kagar*” is implemented to ensure equality of labour. This is a situation whereby in a household of 57, the first person who gets to the field begins to work on the farm going through the first ridge, then instead of moving to the second ridge, he/she counts 56 ridges before moving on with his/her work and it goes on and on like that to the second and then the last person. Normally, this method motivates every one to finish up with their work as well as to ensure that no body is cheated both young and old. Therefore, nobody is pushed to wake up and start work because they know that their portion of work must be done before the end of the day.

### 5.3 Labour Organization Of The Eggon Farmers

In the case of the Eggon farmers, they have a different kind of farming system approach. Most of them have their farms within their community on big plots of land but most often do not live on the farms. They live in fairly developed areas with some level public goods made available. Most often, they have a routine of waking up early and going to their farms and returning home in the evenings.

In the case of the Eggon farmers, there are *no reciprocity labour arrangements*; neither do women engage farm work, labour in all cases is paid through wages. However, some of the farmers mentioned that, family labour is often used but this depends on the number of male children the farmer has. Women, in this region do not take part in farm activities<sup>22</sup> but are engaged in household chores such as cooking, cleaning, washing clothes and other household arrangements.

More also, when asked why women do not engage in farming, one of the farmers<sup>23</sup> stated that: “Matan mu ba sua yin gona domin adinin mu ya hana”<sup>24</sup> (our women do not work because it is against their religion as well as culture to go to the farm) unlike the Pan farmer who has no gendered role when it comes to farm activities both men and women are equal. This section, therefore shows us that there are two sets of beliefs in place the Pan are motivated by culture to engage women in the field while the latter is motivated

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<sup>21</sup> Respondent 1 Pan see annex 1

<sup>22</sup> The Eggon are an ethnic group that is spread over several local government areas. Like the Pan, they have a traditional religion but some have also accepted Christianity and islam. Most of the Eggon farmers interviewed were of the muslim religion.

<sup>23</sup> Respondent 5 Eggon see annex

<sup>24</sup> Language of communication was in Hausa, due to my inability to understand Eggon.

by religion to do otherwise. The profile of the farmers can be viewed in Annex 1.

### 5.3 Quantifying Labour Cost

Having looked at the labour significance for both groups of farmers, and realizing the differences in annual revenue, at this stage, it is necessary to compare both groups on the basis of labour cost to determine whether the Pan farmers are able to make more profit over the Eggon due to their consistent evasion on wage labour. In order to examine this, we will take go through the 5 stages of production, and determine the labour expenditure incurred by the farmers, more also, the number of workers required as well as the days involved in carrying out the work and the total cost at every level will be assessed.

The table below however, shows an estimate of labour cost using a farmland of about 11.1 hectares that would produce about 20,000 heaps. However, it is important to note that various farmers have different number of people working on their farms therefore, there is no specific number required for the work. In this paper therefore, the number of 5 workers were used to determine labour cost and number of days required to complete farm work on a field producing 20,000 heaps. Furthermore, the currency in Nigeria is Naira, but Euros were used due to the imbalance of the Nigerian currency. At the time this research was conducted, the equivalent of the Naira to the Euro was 200 Naira to 1 Euro, which was used as a fixed conversion rate.

Table 5 Distribution of Labour Cost<sup>25</sup>

Work/5 Labourers	Duration (Days)	Cost	Total Cost (20,000 heaps)
<b>Heap Making</b>	20	€1.50	€300.00
<b>Planting</b>	20	€1.50	€300.00
<b>Applying Herbicides</b>	6	€1.50	€300.00
<b>Applying Fertilizer</b>	1	€0.50	€7.50
<b>Harvesting</b>	10	€0.50	€100.00
<b>Total</b>	<b>57</b>	<b>€5.50</b>	<b>€1750.00</b>

The cost of labour for making the heaps is about €1.50 per 100 heaps which will amount to a total cost of €300.00 for 20,000 heaps, the same amount applies to planting and application of herbicides (including cost of chemicals).

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<sup>25</sup> The data was gathered from interviews carried out with the farmers on the basis of 20000 heaps cultivated by 5 labourers.

However, in the case of fertilizer application, the cost amounts to €0.50 per 100 heaps this includes the bags of fertilizer to cover 11.1 hectares which will be about 15 bags approximately. Finally, regarding production harvesting costs about €0.50 per 100 heaps. This is cheap because it is the easiest process therefore less energy is required. Therefore, the total number of days taken, for 5 workers on a yam field of 20000 heaps will be 57 days, thus, the total cost of labour will amount to €1750..

## 5.4 Total Expenditure

Section 5.3 has been able to give an overview of the total labour cost required to cultivate yam tubers of 20000 heaps, In this section, the information given above will be used in examining the total expenditure of both groups of farmers to determine dissimilarities in labour cost. In order to achieve this the table has been split to give information on the input cost, labour cost, Transportation cost, Fees for the middlemen<sup>26</sup> and the cost of accommodation and feeding. It is also important to note that an estimate of 7000<sup>27</sup> tubers was used to determine the prices below<sup>28</sup>. More also, the cost of transportation given is on the basis of a single<sup>29</sup> trip in a 24-tyre truck from the Benue Valley to the Lagos market<sup>30</sup>.

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<sup>26</sup> In this study, the use of dealer and middlemen will be used interchangeably because they mean the same thing in my research area.

<sup>27</sup> Reasons for choosing 7000 tubers –was due to calculated risks of some of the probability of some tubers getting rotten, as well as other tubers that will be kept for planting the next season. In addition, 7000 big tubers roughly make up one truckload.

<sup>28</sup> With an exception of the inputs, which is from, table 4 above inline with the 20000 heaps to determine labour cost.

<sup>29</sup> More also, The estimate of one trip was made for both groups to establish some form of equality at the end of the day, however, based on data collected, the Pan farmers mentioned that they make 2-3 trips a year while the Eggon farmers stated they make only one trip yearly.

<sup>30</sup> Mile 12 yam market Lagos

Table 6: Total Cost: Comparison

RESPONDENTS	INPUT COST	LABOUR COST	TRANSPORTATION COST	MIDDLE MEN	ACCOMODATION /FEEDING	Total Cost
PAN	€875	€900	€ 1500	€70	Dealer's home	>€3345 <sup>31</sup>
EGGON	€875	€1750	€1500	Unknown	€100	€4125

Source: Table by Author

Table 6 gives the information on the total cost incurred by yam producers, this contains; the costs of inputs (fertilizer, Herbicides, etc.) which are both €875.00 for both the Pan and Eggon and also transportation cost which are synonymously €1500.00. It is important to note that there a number of Urban markets in Nigeria such as Abuja, Porthacourt, Calabar etc. but only the cost of transportation to Lagos market was used for this study because Lagos has one of the biggest Urban markets in Nigeria and most people go there to buy and sell products.

However, as we get to the level of labour cost, we begin to see disparities this is because as earlier mentioned, the Pan farmers, make use of reciprocity and family labour arrangements for most of the farm work, nevertheless, paid workers are used but only for 3 stages in the farm (Heap making, Planting and Application of herbicides) thereby resulting to the amount of €900.00 in total for the labour process. However, in Eggon case, the farmers make use of wage labour through out the activities on the farm to achieve a high output for sale in the market. This however when compared to the Pan costs to €1750.00 which is €850.00 more than the Pan.

Another difference is sighted, in view of the fees paid to the middlemen. The Pan farmers pay a fee of €70.00 to the middlemen, this is actually because the middlemen take out 10% from the sale of every 100 pieces of yam is about €1.00 therefore 7000 pieces of yam that amounts to €70.00 paid. However in the case of the Eggon farmers, when asked they mentioned that they had no idea because, the middlemen sell the yam tubers and take out their profit.

Finally, in the case of accommodation and feeding, the Pan people stay over at the dealers' house. This is because they have some kind of informal relationship with the dealer<sup>32</sup> whereby he feeds and accommodates them for the duration of their stay. Nevertheless, in the case of the Eggon farmers, they have a different approach. At this level, they get to the market and pay about

<sup>31</sup> The total cost in this section, should be above the said amount because the farmers did not mention conditions of their stay with the middlemen.

<sup>32</sup> During my research, I discovered that some of the dealers were also from Pan.

€100 in the market place after which they are given accommodation and are allowed to eat at any canteen within the market place.

These continuous disparities between both groups and their relationships with the middlemen have led to major disparities in profit thereby proving that labour cost is actually not a problem. Therefore, this takes us back to figure 7 where annual revenue is highlighted. We can see that, the Pan are able to make approximately €19950.00 while the Eggon make €10500.00 this clear distinction in prices shows that even if the €1750.00 is deducted from their profit they still make a whole lot more, Therefore at this stage it has been ruled out that labour is not the reason behind lesser profit for the Eggon, therefore, it is important at this point to examine the relationship between the two groups of producers and the middlemen who tactically govern the chain.

## **5.4 Chain Governance Reconsidered**

Looking at table 6 above it is clear that labour cost does not constitute a major problem to the farmers; this however shows us that there are other issues, which are reflected from the net profits as a result of various dealings with the middlemen should be reconsidered. This however, takes us back to governance issues regarding the relationships between the farmers and the middlemen. Further discussions about the relationships will be carried out below so as to examine the extent these two groups get involved with the middlemen starting with the Pan and then the Eggon.

### **5.4.1 Governance Structure - Pan**

Given the details about the market relations, there are two distinct governance types in existence among the Pan people. The first group, are the price takers, these constitute the farmers, who often sell their yams on the farms, through middlemen who usually take the yams with the intension of paying after the sales. This is an arms length-type of relationship whereby the farmers accept what they get.

However, the second group, which is the most prevalent, are composed of those who take their yams to the markets themselves. These suppliers, therefore, who take their yam to urban market, (with reference to Lagos) have a more complex relationship with the middlemen whom they call the 'dealer'. These small-scale famers who come from the rural areas find themselves in the big cities therefore, they get to the market and offload their yam at the dealers place. During the course of their stay in the city, they reside with the middleman and his family who is also from the same community with them therefore bringing about some kind of social ties with an outlook of a network oriented type of relationship. More also, every morning, the farmer goes to the market with the dealer who has a lot of connections with buyers, therefore, serves as a link to ensure their yams are sold out, this is as a result of trust built over time.

Transaction Process-At this level, the middleman negotiates with the buyer, however, the farmer remains seated at a distance from the dealer. During the transaction process, the dealer asks the farmer if he is comfortable

with the price given by the buyer, if he says yes, then the yam is sold if he says no; then more negotiation takes place until they get to the price that he is most comfortable with. However, after the yam is sold, the middleman takes 10% from the 'gora' (stack of yams) sold. This gora amounts to a hundred pieces of yam stacked together.

#### 5.4.2 Governance Structure - Eggon.

However, with reference to the Eggon farmers, the governance structure is a lot more different although the sales are carried out per 'gora'. Thus, the Eggon farmers on arrival at the market, they drop off their yam tubers with the dealer, and go down to the market authorities to pay about a hundred Euros for accommodation and feeding for the duration of their stay at the urban market. After this payment, they are allowed to eat wherever they want within the market premises. However it is important to note that the Eggon operate differently with the middlemen in the sense that, they are more market oriented than the Pan farmers. The Eggon farmers therefore hang around and wait until all the yam tubers are sold before collecting the money as a whole from the dealer. Therefore, they do not know how much the dealers sell the yams but they trust the dealers enough not to cheat them, therefore, after the sales, they also do not give any thing to the dealer because they assume he had taken his profit off the sales.

#### 5.4.3 Comparison

After examining both groups one can tell that the middlemen assist these farmers in selling their yams before they get rotten and also grant them access to market entry – and are therefore invaluable for market access. Taking a closer look at the operations carried out by both groups it is clear that the network-like oriented relationship between the “Pan” farmers and their middlemen leads to more revenue than the market-oriented approach used by the Eggon. This goes a long way to say that a purely market oriented process does not always add value.

In this chapter, it has been established that the labour cost does not considerably affect the profits made by the Pan farmers even though they have resulted to various strategies to avoid wages. However, it is interesting to note that even after total expenditure has been deducted it is realized that the Pan farmers make much more profit than their Eggon counterparts due to their more intense involvement in the transactions and hence in the value chain itself.

### 5.5 Economic Versus Social Chain Organization

The previous chapter has shown that there is very little correlation between the labour cost at the production process and the profit taken home at the end of the day. This clearly shows an underlying governance issue between the farmers and the middleman. This chapter is therefore, focussed on various

tensions regarding economic and social issues, which have been earlier identified. I will therefore go into examining how socio-cultural issues impact on economic activities and also going to take a look at the impact of the economic on the social with special reference to the Pan farmers who have been identified to be more competitive. This part will be based on these factors; first is polygamy, secondly, is reciprocity and then finally it shall end with trust.

#### 5.5.1 Production-Enhancing Polygamy?

After reviewing the discussions above, we can see how these farmers have been able to organize themselves therefore not allowing the lack of technology to be a draw back in achieving economic growth. It is important to note that this system has been identified to be highly efficient and they have been able to meet up with market demands, thereby making themselves more competitive at what they do. How do these farmers achieve this high output of which they have been identified? Looking at the Pan interviewees, we have seen a single man possessing between 2-15 wives although it has been identified that the bigger farmers have more women depending on how much land he possesses. There is actually no limit to the number of wives one can acquire. Adding to this, more wives means more children; therefore, these husbands distribute land to every new wife as an incentive whereby they are able to operate their own farms to take care of themselves and their children. However, the work on the man's farm must be completed before the woman is able to work on her field. These women therefore work under the supervision of their husbands or his delegate who tells them what to do, sometimes allowing them to manage the fields when he is away.

In addition to this, one of the respondents<sup>33</sup> mentioned that “Akwai mata da suna iya yin kunya kusan dari wasu ma kusan dari uku sukan yi ya fi haka a rana daya, wasu matan sun fi maza karfi” (he laughs) (a woman is able to make a hundred heaps per day but there are others who are stronger and are able to make up to 300 heaps per day some of the women are even stronger than the men). In relation to this, one of the respondents<sup>34</sup> who has only one wife when being asked why stated, “Ni na zaba in yi aure daya, ama damuwan shi ne babu isheshen hanu mai taimako na a gona” (I chosen to have just one wife but the problem I face is more hands to help me in the farm work especially making of the heaps). This shows us how important the numbers of wives are to the men.

Glenn Stone and Priscilla Stone. (2000:153-154) noted that, ‘Senior Kofyar (Pan) wives of polygenous households, out produce their more junior counterparts and greatly out produce single wives of monogamous households’. It hence appears that performance on the farm is perhaps improved by experience and the presence of competition. This is supported by the prevalence of “Mar kagar” earlier mentioned.

However, the economic risk in this case is that, the men's continuous accumulation of wives leads to more and more children which subsequently results to a vicious cycle whereby the money is made and then spent therefore

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<sup>33</sup> Respondent 4 Pan: Annex 1

<sup>34</sup> Respondent 2 Pan: Annex 1

it is difficult to see a reflection on the profit made. This can be an area for further research.

#### 5.5.2 Social aspects of Polygamy

However, when examining the social labour organization of the farmers in context, it leads us to normative issues. Although, the respondents may say ‘this is part of our culture’, on the other hand, labour laws tell us a different story. In this scenario, we have a situation whereby the farmers who are informally self employed make use women for the production process without wages, even the time spent on the farm is devalued, and it is also difficult to understand the conditions of work. These women are not just picked by a large firm and paid peanuts but their husbands without pay employ them. However, this way of life is acceptable within the immediate community based on the fact that the women who engage in this process are wives, and it is part of the culture for a woman to engage in house work, therefore there is very little to be argued regarding the circumstances of labour conditions. Thus this situation of ‘bonded labour’ through marriage makes it difficult to state whether women have a voice or not regarding their condition. Most especially when a woman has to work on the man’s farm before hers’ and also has to cater for herself and her children using what she gets from her own field. At the end of the day, women are left to compete amongst themselves regarding labour performances and personal produce at the end of each season, which places them in an even tougher position. At the end of the day, money is made but this goes back into the acquisition of a new wife, and more ‘respect within the community’.

When I asked one of my respondents why do you have so many wives? With a chuckle he<sup>35</sup> responded, “Idan mutum yana da mata da yawa zai kara mishi girma kuma zai iya ciyar da duka mutanin kauye” (If you have many wives then you are a big man and it also means you can feed the whole community). However he was the most educated across all the farmers from the community.

This therefore goes a long way, to tell us that a woman is not just an instrument for farm work but is also part of a symbol showing some kind of social status within the community. Thus making the situation more complex with the existence of devalued labour, which has been institutionalized into the local system.

#### 5.5.2 Reciprocity

Furthermore, looking at the reciprocity arrangements, it is interesting to note that the farmers entertain themselves with their local brew ‘Muos’<sup>36</sup> which motivates them to work at a very high capacity. Most often this particular group engage in drinking their local beer made out of guinea corn, sorghum or millet at the early hours of the morning, which they believe is the best way to start the day. However, this may be a myth but it works for them. The host

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<sup>35</sup> Respondent 7 Pan: Annex 1

<sup>36</sup> Muos refers to local beer.



(that is the farm owner), invites friends over in form of an entertainment or party where by a hunted animal is prepared, food or alcohol is used as motivation to attract them to engage in this arrangement. This is called a farming party where men work with a lot of passion because of the reward at the end of the day. Moreover, there is no monetary benefit, but the people enjoy this activity, this is done most often by a farmer who's family are unable to finish the work on time or a person who has very few hands on the field such as the monogamist. This method helps a lot economically in cutting down the cost of wage labour. In certain circumstances, where by a farmer does not have enough seedlings, one of the bigger farmers borrows him some yam seedlings in order to boost his output, which he later pays back. Despite the strong ties existing amongst the farmers, it is interesting to note that they do not belong to any form of farmers cooperative. One of the farmers stated that they function individually 'every man for him self' but ironically there is some level of teamwork involved.

### 5.5.3 Trust

Going further into the relationships existing between the farmers and the middlemen, it is clear from section 5.2.1 that the Pan farmers have a stronger social relationship with thee middlemen. This is reflected in the way they handle their business even though they are not formally educated. These rural farmers have built a relationship with one of their own in the big city who manages the transactions for them and also provides them with accommodation. This is a business relationship that is hardly available anywhere. Despite the fact they seem presumably more market oriented, they seem to have no boundaries when it comes to the relationship with the middlemen. Every thing they do is based on trust; the respondents trust the middlemen and believe that they are at the best position to give them the best deals regarding their product. However it is difficult to argue that the middleman is not a brother who can be trusted.

Having looked at all these discussions above is quite difficult to draw the line and claim that the Pan people are motivated by either a social goal or an economic goal. Therefore it is important to call it a socio-economic goal.

## 5.6 Gender Dimensions

While some farmers, traders and transporters and processors have clearly benefitted from the sales of yam, very little is known about the women who contribute immensely to this product being in market circulation. However this section will be used to examine the dimensions of the informal economy perspective regarding the position of women in the yam value chain and examine the traditional justification to this status. Although there have been other studies, discussing women in the global production networks, such as the 'cotton Pickers' who are 'paid low wages under precarious conditions' Siegmann and Shaheen, (2008:626) despite their unpaid household conditions which further reduces their earnings, however it is also important to note that

there are others who do not get paid, this section focuses on devalued labour of women.

Thus, Macneil, in Lazzarini et al (2001:6) stated that, *'informal dealings have the advantage of promoting flexibility and responsiveness to changing conditions, avoiding costly renegotiation of contract clauses'*.

However in this section, we will be taking into account different perspectives of women in the agricultural chain, not just ordinary women but 'Wives' who take part in a very important part of a huge process but are neither paid nor recognized. This is an informal process within an informal sector making the situation more complex. It is therefore necessary to go back to the three dimensions of the informal economy in section 2.6 to draw out the existing patterns involved. Although the community sees it as way of life it is difficult to question the ethical perspective for this type of labour arrangement.

First of all, looking at the *nature of the production system*, in the yam sector, it is difficult to actually define the status of employment of the Pan women. However one may say they belong to the group of "home based workers" but this is defined by the ILO, in Chakarbarti, (2009:10-11) as, 'referring to the general category of workers who carry out remunerative work within their homes or in the surrounding grounds. It does not refer to either unpaid housework or paid domestic work'. However, looking at the existing status of employment for the women, it is possible to place them under 'Informal self employment' which constitutes 'employers, own account workers, members of informal producers and unpaid contributing family workers that is members within the family who work in a business of farms without pay'. Chen, (2010:5). This goes further to mention that the Pan women on the farms have more than one status amongst the Pan people. Her first position belongs to the category of wives who is also supposed to perform all duties according to the customs and tradition of the people. That is taking care of household activities and also the children. The second duty she has is supporting her husband on his farm as a labourer (unpaid). Nevertheless, if a woman is tired of her marriage, she has the possibility of running away to another village to remarry. McC. Netting (1968:154). Though she leaves the first man, the farming conditions still exist the only difference is getting married to a man who has more or less land. In addition, McCNetting (1969:1037) states that, 'most women have no access to land they are regularly excluded from performances of a lot of rituals as well as prayers and certain divinations' although they have some level of independence such as managing their farms and their husbands farm when he is away.

This therefore, goes a long way to state that amongst Pan people, men have a lot of power over women therefore in a household the man controls the working conditions as well as the employment terms of those under him these include the women and children therefore it is relevant to say that the 'conditions of production in value chains are determined largely by the lead firm' Chen, (2005:17). Furthermore, Lee et al (2011:106) have emphasized that global value chains are dependent on local labour supply therefore 'the local capitalist provides solutions by exerting labour, discipline and control'.

When it comes to the typology of employment relations it is 'Not clearly defined' Chen, (2005:18), this is because, 'it is not clear who the

employer is, what rights the worker has, and who is responsible for securing these rights'. Chen, (2005:18). This type of employment relationship however, is a bit complex because it shows the relationship existing between the husband and his wife (consenting adults) but it is difficult to explain the farm relationship between the man and the woman under the terms of an employee and employer. The woman's employment may be secure as a wife, but it is not clear if she has any bargaining power because most women get married away from home and if the husband is the employer then who can ensure the rights of the women? Chen, (2005:18) also stresses that this category of 'workers tend not to be protected under labour law or collective bargaining agreements: in brief, they are informally employed'. This means that the men, deliberately choose to evade wage labour knowing that the women will do the work and the women get married knowing fully well they are going to be farm workers in the end.

It is difficult to state that there are external regulations within this peculiar system. However, an informal regulatory system may exist but my research did not get into these details. Therefore based on my observation I will be forced to go with 'Lack of Regulation', which leads to a lot of vices such as various corrupt practices. This however may be cultural but it raises a lot of ethical questions. Chen, (2007:10).

## Chapter 6      Conclusions and Observations

### 6.1 Key Findings

Having gone through the various theories and debates surrounding value chains, governance structure and the informal economy, it has led to a number of revelations about the importance of yam, the markets and those who toiled day in and day out to produce this product and make it available in the markets. We have also gone a long way to identify the meaning of upgrading in the yam value chain.

However, these discussions above have helped in answering the main question at the beginning of this paper, which is; how has a particular organization of labour helped or hindered the Pan farmers to participation in the yam chain? In response to this, we have seen a number of processes, which not only contributes to their participation in the yam value chain, but also makes them more competitive than their competitors of the same product.

For Pan farmers, some of these processes of reciprocity, polygamy and equal distribution of work have been shown to lead to increased production more due to social reasons of motivation, competition and the impression of fairness. These factors have made it possible for the Pan farmers to produce at lower costs than their Eggon counterparts.

Most importantly however, the fact that Pan farmers are more involved in the marketing of their products and the transparency of the transaction lead them to have a larger share of the revenues. The Eggon however approach the issue with more passivity and trust in the middleman – which leads to less revenue. This shows the overall importance of the governance structure of value chains in small-scale farmer participation.

Also we challenged the assertion that Polygamy is always negative. In the case of the Pan farmers, it would seem that the polygamy can be an enabler for the production process by leading to increased economy of scale and efficiency.

Despite the consistent debates by economic theorists, who place much emphasis on the importance of technology and technical efficiency, it is important to add to development studies, that there are other social ways that lead could lead to more efficient ways of doing things. The results with reference to the Pan farmers have proved that social means can result to competitiveness. Although there are some ethical issues, which tend to surface within the labour context, bringing about gender concerns, this has been therefore, left open for further research.

## 6. 2 Recommendations for Further Research

Several areas observations were made in the course of this study. These were Ethical issues of child labour and unpaid labour, Gender exploitation concerns, Quality of life of the farming communities, Issues relating to education of children of the farmers, Actual costs and prices (including transport costs) – and actual mapping of the global value chain, Recommendations to improved participation in the value chain by farmers as well as Social issues relating to polygamy. Due to time limitations, the possibility of going through this entire section was very slim therefore this is left open for further research.

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## ANNEX 1: Characteristics of Respondents

The two tables below give us a general outlook on the basic characteristics of the Pan and Eggon farmers, which can be used as a reference for comparison. In both tables, we distinguish two different categories of farmers using their age, education background, number of wives and household size and religion. This will further help us examine the reasons behind various production processes and market relations established in the chain. Comparing both tables we can see that in the case of the Pan respondents are the least educated of both groups, with the highest family size is 57 while for the Eggon we have 27. Furthermore the number of wives in the Pan region range from 1-15 while for the Eggon it is from 1-4 this shows us a difference due to either cultural or religious background of both groups.

Table 9: Characteristics of Pan Farmers

Serial No.	Age	Level Of Education	Number Of Wives	Number Of Children	House Hold Size	Religion
1	60	Primary 7	8	48	57	African Religion
2	45	Primary 3	1	3	5	Christian
3	35	Secondary Level 3	1	5	7	Christian
4	40	NIL	5	A lot	-	African Religion
5	50	NIL	7	30	38	African Religion
6	37	NIL	3	15	19	African Religion
7	48	Secondary level 5	15	32	48	African Religion

Source: By Author from interviews

Table 10: Characteristics of the Eggon Farmers

Serial No.	Age	Level Of Education	Number Of Wives	Number Of Children	House Hold Size	Religion
1	45	Diploma	2	4	7	Islam
2	38	Primary 6	1	4	6	Christian
3	45	NIL	3	23	27	Islam
4	60+	NIL	4	23	28	Islam
5	38	Higher National Diploma	1	3	5	Islam
6	42	NIL	2	9	12	Islam
7	45	Arabic School	2	4	7	Islam
8	35	Primary 3	2	3	6	Islam
9	27	Primary 6	1	2	4	Islam
10	35	Diploma	1	5	7	Islam

Source: By Author from interviews

## ANNEX 2: Pictures

Yam Market Mile 12 Lagos



Pan Farmer at the Lagos market



Yam plantation in Pan



Cross section of a polygamous home (Respondent 1)



A nuclear family with husband's mother





Loading yams from the farm in a pick up



Yam tubers in a 24 Tyre Truck

