THE SOCIAL NETWORK OF URBAN AGRICULTURE: LIVELIHOOD DIVERSIFICATION AS A SYSTEM OF PROVISION IN PORT HARCOURT CITY NIGERIA.

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Ethical Approval Number: 6159/001

A thesis submitted in partial fulfilment of the requirements for the degree of

Doctor of Philosophy in Development and Planning

DECLARATION

I hereby declare that this submission is wholly and to the best of my knowledge the outcome of my research and I am its sole author. This thesis does not contain any material previously published or accepted for any award. Where other sources of information have been used, they have been properly acknowledged. I understand that my thesis may be made electronically available to the public.

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DATE: .....................................
ABSTRACT

This thesis explains how poor urban households in Port Harcourt City, Nigeria, engage with urban agricultural production practices in order to improve their conditions. I show that this engagement is socially mediated by a primary desire for households’ food security.

To demonstrate how people negotiated and navigated urban agriculture processes, I examine three key decision-making points – firstly, what people do to start urban agriculture; secondly, if, and when, they diversify their engagement; and thirdly, if, and when, they cease engaging in urban agriculture. Counter-posing respondents in each of these three groups with a group of respondents that have never engaged in the urban agriculture, I demonstrate how the social relations of urban agriculture framework mediates these processes in different ways.

I extend Meagher’s conceptualisation of sociality of informality that focuses on legacies, linkages and localities to analyse social relations in an urban environment when informality is unescapable by these poor urban households, by adding a further dimension of ‘land’. I elaborated this approach by introducing the social relations of land with an aspect of the sustainable livelihoods approach to name it the social relations of UA framework. Notably, this is its focus on the determinants of livelihood diversification. While ‘land’ (as space) is critical to any economic activity, it takes particular social forms in relation to urban agriculture through the qualities of the soil, aspect, proximity to water, markets, built environment as well as tenure.

Through a quantitative survey with a representative sample I recruited respondents from 40 households categorised around the 3 decision-making points and a group that have never engaged in production phase of urban agriculture. I conducted an in-depth interview with the 40 respondents and elaborated their responses in 4 focus groups discussions corresponding to the four groups.

Looking across the different engagements, I argue that gender as an identity (primarily in shaping access to land); birth right in securing indigeneity (and hence, through inheritance shaping access to land) and social networks in accessing resources, assets and markets are significant in understanding how people engage with urban agriculture.
IMPACT STATEMENT

In answering the research question of: “how do urban households start, diversify within and out of UA in Port Harcourt City Nigeria?”, one dominant factor is the desire for food security. These urban households do this through engaging with informality and this research have used Lipton family mode of production model to group UA amongst informal economy in PHC. I did that because everywhere UA is practiced in the global south and including PHC, Nigeria, labour relations plays a key in engaging with UA. Households that can organise their labour relations properly diversify within and increase production as well as food and revenue. Therefore, this research that is hinge on exploring the relationship between urban agriculture and urban poverty can be beneficial to the academia, planners, policy makers and practitioners.

Two critical angles that this research could be beneficial to the academia are as follows; firstly, I developed a framework called the “Social Relations of Urban Agriculture”. This framework is developed from the sociality of informality by Kate Meagher and elements of Sustainable Livelihood Approach. The notions of legacies, linkages and localities were used to analyse informality in Nigeria. While her respondents were informal shoes and garments producers in the city of Aba in the South East of Nigeria, I focused on urban agriculture workers in Port Harcourt City. I included land to my framework because of the role land as a space and land tenure plays in the lives of households engaging with UA in Nigeria cities. Although, I analysed the production phase of UA, the other four phases (processing, marketing, consumption and recycling) were not analysed in detail. That did not allow me to get into gathering data on policy makers, intervention planners and input suppliers. Future scholarship can build on my work and use the framework to analyse them.

During the process of reviewing literature on this topic and my time in the field, I discovered that there is vast volume of literature on UA in Africa but very few on Nigeria and none on Port Harcourt City. There are 36 Federal, 44 States’ owned and 68 privately owned universities in Nigeria as at 2020, out of which 23 are called universities of Agriculture but none have urban agriculture built into its curriculum. I have been talking with the faculty of Geography and Environmental Management University of Port Harcourt for the need to build UA into its curriculum. Also, the Rights
and Livelihood Centre in the University of Port Harcourt have indicated interest to partner with my research and develop a curriculum for a masters’ programme. Outside academia, it will be a win-win situation between the government and the practitioners. The realisation that poverty is a multidimensional factor, means that planners and development agencies are seeking for ways of reducing it. The analysis of UA in PHC have shown a direct relationship between it and poverty. Urban households turn to UA because they are poor and lack purchasing powers and their engagement have leverage their vulnerability state.
DEDICATION

This research is dedicated to my late mother, Lady Victoria S. N. Mpiigi, JP. Whose action taught me the first lesson on livelihood diversification when she diversified from teaching in the primary school into farming. Mummy you inspired me to research this topic but died few months to my defence. May your loving, caring and gentle soul Rest in Peace. Amen
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ACRONYMS

ADP AGRICULTURAL DEVELOPMENT PROGRAMME
AIDS ACQUIRED IMMUNE DEFICIENCY SYNDROME
NBS NIGERIA BEAREU OF STATISTICS
NDDC NIGER DELTA DEVELOPMENT COMMISSION
NDH NEVER DONE HOUSEHOLDS
NGO NON-GOVERNMENTAL ORGANISATION
NGRANEW GOVERNMENT RESIDENTIAL AREA
NHHSS NIGERIA HOUSEHOLD SURVEY
NHS NATIONAL HOUSEHOLD SURVEY
NLNG NIGERIA LIQUIFIED NATURAL GAS
NNPC NIGERIA NATIONAL PETROLEUM COMMISSION
NPC NATIONAL POPULATION COMMISSION
NPK NITROGEN, PHOSPHORUS AND POTASSIUM
OGFZ OIL AND GAS FREE ZONE
OGRA OLD GOVERNMENT RESIDENTIAL AREA
PDP PEOPLES DEMOCTATIC PARTY
PHC PORT AHRCOURT CITY
PhD DOCTOR OF PHILOSOPHY
PHM PORT HARCOURT METROPOLISE
PIP POLICIES, INSTITUTIONS AND PROGRAMMES
PPE PERSONAL PROTECTION EQUIPMENT
PTA PARENTS TEACHERS ASSOCIATION
PUH POOR URBAN HOUSEHOLD
RUAF RESOURCE CENTER FOR URBAN AND PERI-URBAN AGRICULTURE AND FOOD SECURITY
RUST RIVERS STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY
SAP STRUCTURAL ADJUSTMENT PROGRAMME
SGUA STUDY GROUP ON URBAN AND PERI-URBAN AGRICULTURE
SLA SUSTAINABLE LIVELIHOOD APPROACH
SOP SYSTEM OF PROVISION
SPDC SHELL PETROLEUM DEVELOPMENT CORPORATION
SS SOUTH SOUTH
SSA  SUB SAHARA AFRICA
TNC  TRANSNATIONAL CORPORATION
TUAN  THE URBAN AGRICULTURE NETWORK
UN  UNITED NATIONS
UNDP  UNITED NATION DEVELOPMENT PROGRAMME
UNIPO  UNIVERSITY OF PORT HARCOURT
UNR  URBAN NATURAL RESOURCES
UPA  URBAN AND PERI-URBAN AGRICULTURE
VC  VICE CHANCELLOR
VCA  VALUE CHAIN ANALYSIS
WB  WORLD BANK
WIEGO  WOMEN IN INFORMAL EMPLOYMENT, GLOBALISING AND ORGANISING
WTO  WORLD TRADE ORGANISATION
CHAPTER ONE

The Social Network of Urban Agriculture and Livelihood Diversification as a System of Provision in Port Harcourt City, Nigeria.

Introduction

Urban agriculture is a feel-good concept. It is hard to contest the almost universal applicability of a concept that can evidently address concerns relating to sustainability, urban poverty, food security and better nutrition, amongst other things. In cities characterised by unsustainable forms of development, impoverishment, food insecurity and poor levels of nutrition, urban agriculture would seem an obvious and important policy priority. For scholars and policy makers advocating for cities to embrace urban agriculture more systematically, the reality is more complex. Indeed, it is in the intricacies of these complexities that the promotion of urban agriculture often founders.

Moving beyond the emotional appeal of urban agriculture and taking a more measured, but still positive, view of the potentials of the concept, this thesis addresses one of the key complexities that is encountered in promoting urban agriculture in cities in the global South. That is, how urban agriculture interacts with urban dynamics characterised by extensive informality. Urban informality and informal economies have received extensive scholarly attention in African cities. As a whole, this work leads off in many important directions, not least how a ‘formal’ state generates and implements policy in contexts of extensive ‘informality’.

However, while the implementation of more effective urban agricultural policy is an important motivator for this thesis, what is at issue in this thesis is how urban agricultural practices are already occurring within a context of informality. Put another way, either because of, or despite urban informality, people are able to successfully engage with urban agriculture. How do they negotiate access to land and other resources necessary for agriculture where there is little state support? Which social networks are drawn up to secure support for activities? How do the traditional or accepted norms of engaging in different livelihood practices configure what is possible? My view is that unless issues such as these are understood more clearly,
any new ‘formal’ attempts to support and promote urban agriculture are likely to founder.

This thesis therefore explores how households in Port Harcourt City configure the necessary components, inputs, and knowledge of urban agriculture through the local context, as the context simultaneously shapes what is possible. What I seek to draw attention to is the interactions between the ‘specificities’ of urban agriculture (for example the seeds need to be planted in certain conditions and watered periodically to provide an acceptable yield) and the socio-political factors that shapes who gets access to what, where and when. In exploring these interactions, I shed light on the issues – that tend to be neglected – but that I argue, need to be taken account of by scholars and policymakers’ intent on promoting urban agriculture in cities in Africa – whether this be for the purpose of food security, food sovereignty, planning for sustainable cities and/or urban poverty reduction.

As I will show, there are certainly many advocates of urban agriculture, and they often have overlapping policy goals that are considered pertinent to the pervasive poverty and food insecurity that characterise many African cities. Two African cities are often held up as exemplary cases of the difference that urban agriculture can make. Vermeiren et al., (2013) argued that in Kampala, the expansion of the city started reducing the space available for urban agriculture. The mayor, citizens, and Non-Governmental Organisations came together as stakeholders and charted a new course on the Kampala land ordinances (Nkurunziza, 2008). In Accra, the city expanded, and urbanisation was on the increase with associated increases in unemployment and urban poverty. The Ministry of Food and Agriculture, Accra Municipal Authority and NGOs used urban agriculture to get people to work. To achieve this stakeholders’ approach, urban agriculture was incorporated into the city development plan (Barry and Danso, 2014a). In both cities, changes were made to formal planning regulations to recognise urban agriculture as a legitimate land use more formally.

A critical lesson that is typically drawn from cases such as these (and others, such as Ibadan in Nigeria) by advocates of urban agriculture, is that the main task is to prove that urban agriculture is a legitimate land use (Lwasa, Mugagga, Wahab, Simon, et
al., 2014). Also that such recognition in formal urban planning will automatically allow the inevitable benefits of urban agriculture to be realised (Olajoke, Aina and Ogini, 2013). While I will show that the relationship between urban agriculture and formal urban planning is indeed an important one, an exclusive focus on such technicalities tends to obscure the socio-political dynamics that are a vital part of any urban agricultural activity and thus, how different groups involved in urban agriculture in any city benefit differentially.

This research focuses on Port Harcourt City (PHC), the capital of Rivers State, southern Nigeria. PHC, like many African cities, can easily be located in the grid of problems that make urban agriculture appear like a critical policy option. The city is growing fast, and the importance of planning for a sustainable future is critical. Food security is low and attempts at poverty reduction do not appear to be making significant impacts. More broadly, there are significant questions being asked about Nigeria’s broader food sovereignty. More specifically, I use the Rukpokwu area of PHC as a focal point and will provide more detail later in the thesis after setting out the broader context.

It is important to note that this thesis does not focus on people engaged in other forms of urban agriculture as will be explained in section 1.8 but those at the production phase. Those occupying marginal lands, those at slightly bigger or smaller scales, those engaged in other steps in the urban agriculture value chain, were not the focus. I use the broad term of urban agriculture to represent agricultural practices within and on the edges of the city. Therefore, informality is a key issue when it comes to formal planning and acknowledgement of urban agriculture as an acceptable activity in the city of Port Harcourt where informality drives the economy of poor urban households.

1.2 Urban Agriculture and Poverty Reduction

Food insecurity is associated with urban poverty, most especially in the global south where practices of UA is linked to the desire to feed households. Therefore, a system of food provisioning such as urban agriculture, that can have low barriers to entry is often considered as a policy response to poverty. It is observed that households facing
food insecurity turn to urban agriculture to generate food, create employment, and reduce their vulnerability. In this sense, urban agriculture can be considered to be a livelihood activity that is engaged in to mitigate the effects of urban poverty (Fre, 2018).

Many of the key factors that contribute to generating and perpetuating urban poverty and food insecurity in PHC can be traced back to the programme of structural adjustment programmes (SAP) that were promoted in Nigeria by the International Monetary Fund (IMF) and World Bank (WB) in the late 1970s and early 1980s. Neu et al., (2010) argues that apart from having the effect of undermining the sovereign rights of states and governments, these programmes reduced Nigeria’s abilities to determine its economic policies including those pertaining to food and agriculture (appendix 6).

Urban households who were relatively secured through their engagement with urban agriculture, were forced to part ways with their assets through policies. These policies pertaining to how urban land should be allocated, appropriated and used are part of the Land Use Act 1978. Thus, many people increasingly lost their control of land, seeds and other genetic resources and became increasingly dependent on unsustainable costly technologies controlled by Trans-National Corporations (TNC) (Shimada, 1999a). The setting up of strict international standards that only developed countries could meet has had grave implications on urban agriculture. For the purposes of my study, this resulted in poor urban farmers not having access to production and processing facilities that met such standards set.

In Nigeria, this period brought new policies to agriculture with a primary objective to modernise the agricultural sector of the country especially regarding achieving self-sufficiency in food production. At the launch of SAP in 1986, the Federal Government announced the initial release of about 18.3 million Nigeria Naira or $2.89M (N8=§) to modernise agriculture. Under these arrangements, various projects, such as land clearing schemes, farm mechanisation centres, agro-service centres, river basin

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1Critics have challenged the basis and assumptions of SAPs (Igbedioh, 1993). They have also pointed to the fact that the process of designing them is undemocratic and is usually dominated by officials of the International Financial Institutions (IFIs) yielding a product ‘not owned’ by the implementing country. These have been underlined by the expectations raised by the programmes’ advocates at their inception not materialising.
development schemes, national accelerated food production programmes and tractor hiring services were all to receive increased development funds. Also included were the increased supply of fertilisers and other external inputs, as well as more micro-credit guarantee schemes for farmers in the agricultural sector (Okosun et al., 2010). Urban agriculture was not considered and urban households who wanted to benefit from the schemes were expected to be part of the rural agriculture cooperatives or union. This further undermine the attention the government of Nigeria gave to urban agriculture as a policy for urban poverty reduction.

Igbedioh (1993) argued that the imposition of SAP in countries like Nigeria in the 1980s led to the realisation of new forms of urban poverty compared to the general rural poverty and had significant consequences for food production and supply systems. Easterly (2005) further argued that as one of the direct consequences of SAP, urban life became more precarious for a range of different people who had hitherto been relatively secured. Urban households lost their employment (especially those practicing UA due to unfavourable land policies) or were thrown into less advantageous economic positions (Shimada, 1999 and Easterly, 2005). During this period, urban households practicing UA in the cities were forced by land policies to part ways with their urban land or relocate to the rural and peri-urban areas to continue farming.

As Brown-Luthango (2011) will say, most city dwellers see the city as a place for living and other urban commercial activities rather than farming. The relocation of urban households to the rural areas and support for rural agriculture led to more production of exports-oriented crops on the one hand and forceful eviction of urban farmers by city governments on the other hand. In cities of Nigeria, the locals that had been forced by SAP-informed government policies from the inner city to the peri-urban area continued in the planting of their traditional crops, and their eating pattern remained unchanged. During the SAP period, urban agriculture became a means of securing a degree of self-sufficiency because urban poor households turned to it to sustain their livelihoods.

In Nigeria, the Structural Adjustment Programme (SAP) did not achieve its desired objectives. The first significant challenge it faced was lack of implementation which
anti-corruption crusaders said it is allegedly because of corruption on the part of administrators. The second challenge was a lack of continuity due to frequent change in government at the national level, as each government introduced its new priorities and directions, who did not want to be associated with policies they inherited. Within this process, and despite the dire urban poverty-related need, the role of food production in cities was neglected.

1.3 Planning for Poverty Reduction using Urban agriculture

The consequences of structural adjustment policies did not go unnoticed by scholarly advocates already working at a poverty/urban agriculture interface beyond Nigeria. For example, in early 1996, the International Development Research Centre (IDRC) commissioned The Urban Agriculture Network (TUAN) to provide background research on the contributions of UA and facilitation for a meeting that the IDRC would convene in Ottawa. This was for interested development agencies (including the World Bank, the UN Food and Agriculture Organization (FAO), the UNDP, and the German and Dutch agencies for International Cooperation — GTZ and DGIS). Nasr (2001) argued that the aim of this gathering was to better coordinate support to urban agriculture in the Global South.

Prior to this time, there were urban dwellers practicing UA in cities of the global south, but very little policy attention meant that these activities tended to be overlooked by policy makers. Smit and Nasr (1992) produced and presented a perspective on the development of the sector, and it was at that meeting that the DGIS and IDRC agreed to work together. They funded what later would become the first worldwide network of UA called Resource Centre for Urban Agriculture and Food Security (RUAF) formed in 1999. The meeting also formalised a global Support Group on Urban Agriculture (SGUA) and both works to support UA in the global south. This was mostly composed of development agencies named above that wanted to stay connected with one another to take opportunities to complement each other's work in this new area.

Thus, the focus on agricultural production in cities, specifically as an area of scholarly and policy interest, has been recent. I argue that one of the reasons that it has
continued to grow in popularity is that urban agriculture can be related to a diverse range of development policy agendas. For example, food security (Allen and Frediani, 2013), improvements in household finance (Ives and Kendal, 2013), greening the cities (Dubbeling, Zeeuw and Veenhuizen, 2010), informal employment opportunities (Appeaning Addo, 2010), and mitigating effects of urbanisation (Cabannes, 2012). Urban agriculture is thus usefully considered as a means of simultaneously intervening in a range of developmental problems. However, it is particularly the relationship of urban agriculture to informality with urban poverty reduction policy agendas that this research will be investigating in detail.

1.4 Planning for the Urban Poor Households' Livelihoods: The Informal Economy

The concept of the informal economy was based on empirical data obtained from Ghana in West Africa and resulted from fieldwork among urban workers outside the wage sector. These groups of people were not regarded as part of the economy because they were not recorded in official numerical data (Hart, 2008). Hart further said that they (the informal economy workers) are regarded as part of the unproductive tertiary sector. He based this dualist model of the formal and informal economy on a distinction between wage-earning and self-employment. The key variable was whether labour was recruited on a permanent basis for a fixed reward or not. Accordingly, the informal economy was seen as a means of providing a livelihood for the new entrants into the urban labour force, those that do not have employment in the formal economy, mostly due to lack of skill training or lack employment opportunities (Gibson, 2005 and Chen, 2007).

When issues of those that fall into the informal economy are discussed, Ravellion and Lipton (2005) made a case for the importance of a family-based mode of production, arguing that family units predominated within this category. Linking urban agriculture to the informal economy is critical if we are to follow the family mode of production model. This is so because experience from virtually all the cities where urban agriculture is practiced in the global south, shows that it is mainly done as a family business (World Bank, 2006; Food and Agriculture Organisation of the United Nations,
2010; Mougeot, 2011; Aabø and Kring, 2012). Therefore, this research will analyse the interaction between urban agriculture, and the diversity of urban households in a context of informality of which urban agriculture as an informal economic activity is a key part.

When discussing informality in a city economy, identification of the target group becomes very vital, including the model on which it is based. In the works of Hart (2008), it is necessary to clarify whether it is the people or the activities they are involved in that are being used to identify them. When deciding on identifying target groups in different studies of the informal economy, it is said to fall into two general categories (Carr, Chen and Tate, 2000). They argued that since the key to improving the condition of the urban poor depends on the determinant of their income level, the emphasis should be based on those variables that determine an individual's income. They listed them as; personal characteristics, occupational characteristics, employment status, labour market characteristics and characteristics of the activities or enterprises on which the individual depend. Raihan, Fatehin and Haque (2009) concluded that once an individual's income level is raised, access to basic needs (food, clothes, shelter, and urban services) is considerably improved. This research therefore is using the family mode of production as a basis of including urban households into urban agriculture engagement and will explain further in the next paragraph.

This research, therefore, considers UA as part of the informal economy in PHC after due considerations of the debates presented above. It does this after considering the concepts of informal economy, the labour relations and consideration of groups that fall into the informal economy. Using the family mode of production model as a yardstick, I studied urban agriculture from the perspective of informality. Since Nigeria is part of the global south and informality and poverty are prominent, I will explain Nigeria poverty reduction strategies next.
1.5 Nigeria Poverty Reduction Strategies: Setting the Scene

Poverty is not just lack of food or finance, but it is rooted in the total well-being of those affected. However, the governments of different countries and regions have often come to accept and work with policies that are quick-fix and short-terms in addressing poverty. Nigeria for example, has gone through eleven (11) poverty reduction strategies\(^2\) from the 1970s until 2017 but none of them focused explicitly on urban poverty (Unesco and Paris, 2012 and Odior, 2014). According to (Okeke and Okechukwu, 2014), this is all the more remarkable, given that poverty is urbanising in Nigeria.

The more rural households migrate into the urban areas that are without proper planning, the more they stress the urban system that is in existence and not being developed at a commensurate pace. Every new central government that is appointed/elected\(^3\) (military/civilian) seems to abandon the policies of the previous government and start its own strategies aimed at giving meaning to their campaign promises. This lack of continuity in policies has led to setbacks on interventions that were drawn to reduce poverty in the country. Thus, it has made urban lives difficult for poor urban households who hope for better policies that can encourage continuity and support their quest to oust poverty.

In Nigerian cities, poverty and its accompanied inequality in their multitude embodiments are everywhere for those with eyes to see because it is evident in the cities and workplaces (Food and Agriculture Organization, 2011). People encounter poverty and poor people on the streets, in the traffic, in the neighbourhood, at workplaces and in places of worship. Like a researcher once said, "beggars provide the service for allowing their fellow citizens to feel charitable" (Baltazar M.L. Namwata, 2012). Anti-poverty is often a polite understatement for anti-poor, and it is the

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\(^3\) I used 'appointed' for Head of States during military rules and 'elected' for presidents during democracy.
unpalatability of happening to co-exist and share places with the poor that is the problem for planners (Satterthwaite, 2011 and Schnitzler, 2013). Therefore, the picture below shows how formal and informal settlements (settlements for the poor and rich) interacts in PHC. According Patel (2016), context such as this shows how development and city planners plan for interventions and how such planning determines urban households' wellbeing. This then leads me to explaining the approaches of studying poverty and what poverty means to the poor in the next paragraph.

**Picture 1: Showing Interaction Between Formal and Informal Settlements in Port Harcourt City**

Bourguignon and Chakravarty (2003) argued that a multidimensional approach to poverty defines poverty as a shortfall from a threshold on each dimension of an individual's well-being. Accordingly, Dhongde and Minoiu (2013) argued that when going into the multidimensional analysis of poverty, the reasonable starting place is to compare the individual's achievements against the respective deprivation cut-offs. This research explores urban households starting from an observation that a large percentage of poor urban households turn to UA because of poverty (L. Mougeot,
Battersby and Peyton, 2014; Riley and Dodson, 2014). Also, Drechsel, Cofie and Danso (2010) argued that because UA has provided food, informal jobs and an increase in urban household finances, then UA has the tendency to lift poor urban households out of poverty. Looking at this interaction between UA and urban poverty, this research believes that poverty has a significant role to play in the lives of urban households that engage with UA as a livelihood choice in Port Harcourt City (PHC).

1.6 Identifying the Knowledge Gap

The knowledge gap that this thesis addresses emerges from the intersection of urban agriculture, informal economy, and urban poverty. Specifically, I seek to contribute to the understanding of the way in which these three social phenomena interact and inform each other. That is, I aim to go beyond linear causal relationships (that tend to be reflected in policy) where, for example, poverty causes people to engage in urban agriculture, or informal economic activities are caused by poverty. Instead, I argue that there is considerable merit in understanding the multiple relationships to gain a richer understanding of people's engagement with urban agriculture. This enhanced understanding is particularly important in a policy context that is seeking to promote urban agriculture further.

Since the early 1970s, the majority of developing countries have acknowledged that the reduction of urban poverty cannot be attained without greatly appreciating the role of informal economy (Debrah, 2007; Jimu, 2011; Olajoke, Aina and Ogini, 2013). However, Ekpenyong (2007) argued that the incorporation of advances by the informal economy into the investigation of urban poverty is still debated till date. Thai and Turkina (2013) further argued that there are at least two underlying reasons for this limited exploration of the affiliation between urban poverty and its incorporation into the informal economy. First, methods of observation have been based on the enterprise, and second, it has been assumed that any action concerning the informal economy would substantially help to drive out poverty. Awumbila and Ardayfio-Schandorf (2008); Baker, (2008) and Lovell, (2010) said that in the real sense, the last couple of decades’ economic policy approaches to the informal economy, which have been or are being adopted, have not been appropriate for dealing with the problem of urban poverty. The informal economy may indeed be seen as a particularly valuable
means of poverty reduction, but until new approaches towards understanding the informal economy is practiced, the threat will keep lingering.

However, according to Crush and Caesar (2014) not all the activities relating to the informal economy must do with the most deprived, and a specific type of incorporation into the labour market of the formal economy sometimes marks poverty. In other words, Ward and Shackleton (2016) argued that urban poverty overlaps the informal/formal dichotomy. Thus, closer integration of the ways in which labour is employed\(^4\), predominantly informal work and the experience of urban poverty is perhaps evidence of analysis planned towards reducing the incidence of labour relations in UA (Taiwo, 2013; Pendleton, Crush and Nickanor, 2014). In this context, it is crucial for the connections between types of employment within households to be examined. Furthermore, it may be particularly valuable for drawing up the necessary intervention programmes to determine the relations between vulnerable employment\(^5\) and poverty, in terms of access to employment and career prospects.

When the informal economy is broadly defined, it comprises half to three-quarter (1/2-3/4) of employment outside agriculture in developing countries (Chen, 2008, 2012). Some countries include informal jobs in agriculture in their estimates, and this increases their proportion of employment in the informal economy significantly. The informal economy is generally a massive source of employment to women countries of the global south, approximately 60% or more (Horn, 2010 and WIEGO, 2010). The flexibility of informal economy allows women to combine informal employment with other household activities and women benefit from it significantly. According to Budlender (2011), in Sub-Saharan Africa, the ratio of women to men in the informal employment outside agriculture is 84%:63% and when informal employment in agriculture is added the number goes even higher.

The size of the informal economy in Africa (in percent of GDP) was 42% for the years 2015/2016. From figure 3 below, Zimbabwe has 59.4%, Tanzania has 58.3%, and

\(^4\) The labour market’s relationship between the formal and informal economy, for example, where formal firms hire or contract informal firms to supply labours to cut down on cost and dodge responsibilities of formal economy.

\(^5\) Employments within the informal and formal economies that lack protection and social security.
Nigeria has 57.9% by far making them the three largest informal economies in the continent (Medina, Jonelis and Cangul, 2017). In the middle field is Mozambique with 40.3%, Cote d’Ivoire has 39.3% and Madagascar with 39.6%. At the lower end is Botswana with 33.4, Cameroon has 32.8, and South Africa has 28.4%. In summary, one realises that the size of the informal economy that intertwines with the formal economy in Africa is quite large.

Figure 1: Showing size of the informal economy in Africa (in % of population)

Source: Medina, 2017
Scholars of informality in Nigeria have analysed aspects of Nigeria’s urban informal economies from a variety of perspectives. For example, Ayotamuno, Gobo and Owei, (2010) and Nte (2010) argued that it is difficult to distinguish both economies since they interacts but the formal is superior to the informal. A problem with these studies is that the dichotomy that is inherited with such understandings of the relationship between formality and informality is unhelpful in explaining the relationships that constitute informality itself and which potentially run across the informal/formal divide.

I therefore, follow Meagher (2005, 2013) in working with a social network approach of studying informality in Nigeria. The approach developed by Meagher draws attention to the social relations that make up ‘informality’ and thus gives greater precision to these processes. She proposes that notions of “legacies”, “linkages” and “localities” can act as lenses into the different types of social relations that are summarily observed as ‘informality’. The advantage of this approach is that it sheds light on the relations that exist within more diverse categories of analysis and avoids the bluntness of the concept of ‘informality’ where so much of life appears ‘informal’.

However, Meagher’s framework omits land as a key concept/variable that relates to urban agriculture. Land is indispensable to urban agriculture in providing space to
engage in agricultural activities, location, inputs required for growing fruit and vegetables, proximity to infrastructure and markets and is marked by issues of tenure security. The framework I developed will be discussed in details in chapter 3 (figure 7), where ‘land’ is added to the notions of legacies, linkage, and localities to become “The Social Relations of Urban Agriculture Framework”.

This chapter continues by emphasising the urgency of this research, explaining why the focus is on Nigeria and more specifically why the Rukpokwu area of Port Harcourt City is chosen. It explains why the choice of Port Harcourt City; the capital of Rivers State was selected as the case study. The research question is presented with the focus of the study, and the chapter ends by outlining the structure of the thesis.

1.7 Research Entry Point: Rukpokwu, Port Harcourt City

The state of Rivers is located in the South-South region of Nigeria (fig 5), in the Niger Delta region, which also has the highest deposit of crude oil in the country. While some states, Bayelsa and Delta, are mostly riverine, Rivers State has both upland and riverine communities making it a traditional home for those living off fishing and crop farming. The city of Port Harcourt is the combination of Obio/Akpor and Port Harcourt City Local Government Areas, and according to Nigeria Population Council (2007), the total population of PHC is 3,620,214. This is the figure recorded from the last official national population census done in 2006 and published in 2007\(^6\). With Nigeria estimated to be about 200 million people in 2020 and the urbanisation rise (Weber et al., 2018), PHC should have its fair share of population surge also. The city has a metropolitan built area of 369 KM\(^2\), the land area of 360KM\(^2\), water area of 9KM\(^2\) and metropolitan area of 1,900KM\(^2\). Rukpokwu is a town located between the old Port Harcourt City and the newly proposed city development called Greater Port Harcourt (GPH). Rukpokwu which falls North of old PHC is one of the ancient Ikwerre towns but attracting development and in-migration of late due to its strategic location.

\(^6\) There has not been another population census in Nigeria since the 2006 national census.
The people living in Rukpokwu are mainly of the Ikwerre ethnic nationality, found in four Local Government Areas of Ikwerre, Port Harcourt City, Obio/Akpor, and Emuoha. They (the LGAs above) are part of the twenty-three Local Government Areas (LGAs) that make up Rivers State. It shares a common boundary with Rumuodomaya town, the headquarters of the Local Government Area. Though there are great mixtures of other Nigerians settling in Rukpokwu, they (migrants) are either tenants living in rented houses owned by the indigenes or are landlords living in their own houses. This means that buying your own land, building your house and living in Rukpokwu does not make you an indigene. In this community, there are other ethnic groups, including Igbo from the Eastern part of Nigeria, Yoruba from the Western part of Nigeria and Hausa/Fulani from Northern Nigeria.
I chose Rukpokwu as my entry point due to the uniqueness and strategic contributions of its location to my research. It is possible that I could find urban farmers in other parts of the city including people living around (picture 1), which I showed earlier. I considered all of them and decided on Rukpokwu because of three factors that are so appealing to my research. The first, because of the economic vibrancy (proximity to the Greater Port Harcourt City (GPH) and other development projects) of Rukpokwu, it means you can look at UA thriving in the area while giving others opportunity to diversify. Driving from the PHC international airport into the city, I saw UA going on in Rukpokwu and along the airport road. This means that it was easier to find those that would fall into the definition of my target groups around this area of PHC. Finally, and not the least, my knowledge of the area and how to navigate within the town during my social survey was another critical determinant.

The practice of UA is gender sensitive in this area, though the women often recognise the man as the head of their households, the majority of the women run the day-to-day activities on the farms. They organise the labour, take part in the processing, distribution, and marketing of urban agricultural products. Port Harcourt is fondly referred to as "The Garden City" of Nigeria due to its fertile land and productive nature and has its main city as the Port Harcourt City in the Port Harcourt City Local Government Area (LGA). It has various former European quarters (left by the colonial authorities) now called Old Government Reservation area (Old GRA).

Because Port Harcourt is the only major City in Rivers State, it is highly congested, and part of the reason for this is lack of planning. The 2007-2015 government under the leadership of The Rt. Hon Chibuike Rotimi Amaechi proposed and started building a new city called Greater Port Harcourt City (GPHC). It was assumed that the new city that spans through seven local government areas namely, Port Harcourt, Eleme, Obio/Akpok, Ogu/Bolo, Oyigbo, Okrika and Ikwerre would bring development to the state and decongest the already over-populated Port Harcourt City (GPHCDA, 2010). The new proposed city was expected to create more jobs, homes and attract more Foreign Direct Investments (FDI) through Private Public Partnership (PPP) as a policy.
Figure 4: Map of Rivers State showing its 23 Local Government Areas (LGAs) and Study area indicated in the map of Nigeria showing Rivers State.

Source: Department of Geography and Environmental Management: University of Port Harcourt 2016
Port Harcourt City hosts six multinational oil firms, namely, Royal Dutch SPDC, Texaco, AGIP, Chevron, Saipan and Total FINA ELF (Salau, 1983; Afinotan and Ojakorotu, 2009). It has two Sea Ports (Onne port and Port Harcourt wharf), two airports (the Port Harcourt international airport Omagwa and Nigerian Air Force Base). The headquarters of Niger Delta Development Commission (NDDC) a body created by the federal government and tasked with the responsibility of providing development for the Niger Delta region is also located in PHC.

The Onne Oil and Gas-Free Zone that hosts about 120 companies is a significant contributor to the pressure on accommodation in the city of Port Harcourt as workers of these companies seek accommodations in the city where essential social amenities could be found. The city of Port Harcourt has two major refineries, a Petrochemical Complex and a Fertiliser Industry (GEO, 2010). Job seekers also form part of the population in the city. Those who are not fortunate to find formal jobs, opt for the available informal jobs which has turned out to be the norm.

The discovery and exploration of crude oil in commercial quantity in the Niger Delta region in 1956 brought about a new form of economic priority in Nigeria. The Nigerian economy which once thrived on agriculture due to its groundnut, cocoa, and palm produce to the world market, subsequently depended on petroleum for its budget funding. This has brought about significant development challenges to the country and the Niger Delta region. While the region housed these natural resources, the Land Use Act 1978 and Liquefied National Gas Act made the Federal Government and its agencies the sole authority over its management. The part of the Land Use Act 1978 (Land Use Act Cap L5 LFN 2014) which gives exclusive right to the Federal Government over natural resources and the Liquefied Natural Gas Act (LNG) of 1990 and 1993 makes it impossible for personal ownership of such natural resources in Nigeria (Land Use Act, 1978; NLNGA, 1989). These laws have led to frosty relationships between the multinationals and host communities and have subsequently only created militancy, unemployment, development challenges, poverty and insecurity in the creeks and cities of the region including Port Harcourt City.
Urban households depend on natural resources found within and around the urban centres to sustain their livelihoods. In Port Harcourt City, the dominant sources of livelihood are natural resources such as lands, forest, and rivers which are found within the city or on the edges (Mougeot, 2000 and Tanner and Mitchell, 2009). But land management policies practiced in PHC and Nigeria hinder the accessibility to land by the urban farmers. The Nigerian Land Use Act 1978 is viewed as a clog in the wheel of development in Nigeria (Land Use Act, 1978 and Ako, 2009). The land Use Act 1978, when it was introduced, was seen as a process of resolving the decades of land imbroglio but ended up becoming a clog in the wheels of urban households willing to access land for UA.

1.8 Urban agriculture as a Poverty Reduction Strategy in the Global South: An Urgent Agenda for Research.

Battersby et al., (2014) subdivided UA into two types (intra-urban and peri-urban agriculture). The intra-urban deals with UA practiced in the inner cities while the peri-urban concerns those practiced on the periphery of the cities. In my research carried out in PHC, I focused on the broad use of UA to accommodate agricultural production within (intra-urban) and on the edges of the city (peri-urban). This gave me insight into all forms of UA production in PHC, as evident in the farm locations where I conducted a component of my research (fig. 6); RUST (intra-urban); Uniport, Rukpokwu/Airport road, and Iriebe are (peri-urban) respectively. Therefore, after dividing UA, the need for classification arises, and I classified it into three classes with reference to the built environment and features of UA. They are, location and size of farm, production aim (feeding or sales) and performance of crops or animals or intensity of production (details in chapter two).

For the purpose of clarity, through my social survey in Rukpokwu, I identified and studied urban farmers in the four farm sites mentioned above. Urban households in my research were asked where they farm and how long it took them to travel to their farms and these questions gave me insights into where their farms were located. The Rukpokwu farm comprises of urban farms in Rukpokwu and along the airport road. The Uniport farms are those on the premises of the University of PHC while the Iriebe
farms which are between Oyigbo and Obio/Akpor LGAs are part of the peri-urban UA. The RUST farm which is on the premises of the Rivers State University, is in the heart of PHC and formed intra-urban UA. These four farm sites were purposively chosen because of their uniqueness in terms of access, tenure and land security as experienced by the farmers.

Figure 5: Showing the location of the four farm sites used for the research.


1.9 Research Questions, Focus, and Design

This thesis contributes to debates about the role of urban agriculture by developing and applying a methodological framework that accounts for the interaction of poor urban households with the social network of urban agriculture. It does this through the lens of the social relations of urban agriculture, that is, informal (relations, institutions,
and networks) and the diversity of the poor urban households (chapter three). Therefore, to explore these interactions, this research seeks to answer the research question below using a mixed method approach;

"How do urban households in Port Harcourt City start, diversify within and move out of the production phase of urban agriculture"? The research focused on three broad areas listed below;

Informality where urban agriculture (UA) is an integral part in Port Harcourt City (PHC). This is because informality is pervasive in PHC and informal relations (defined as those that do not pass directly or naturally through the state or in reference to state regulations) appear to dominate the ways in which poor urban households live their lives. This does not mean that these social relations are unregulated, as I will go on to show. The urban households practicing UA do it informally, tapping into various informal arrangements that help shape their livelihoods towards attaining food security. To study UA through the lens of the informal economy, this research builds on the work of (Ravellion and Lipton, 2005).

The research is concerned with investigating how urban households in Port Harcourt City (PHC) make choices or the livelihood pathways they have faced as urban agriculture workers and other informal activities they are involved in. It does this by researching how the networks in which their activities are embedded could be conceptualised, knowing the strength of these informal relations, institution, and networks (social relations of urban agriculture). It does this by looking at what access to land, legacies; linkages and localities bring to these urban households in relations to the culture and traditions they are embedded.

The research is interested in how these choices act as a system of provision for poor urban households and making them attain resilience and withstand shock "when and if" they occur. Households faced with precarious situations diversify their economic activities to face the challenges that prompted the diversification. Although the entry criterion into informality may look simple, the ability to hang on when vulnerabilities and shocks associated with these informal activities occurs is also important. The concept of livelihood diversification as a system of provision becomes vital because it acts as a shock absorber to such situation. For example, poor urban households engaging with UA of vegetable alone might lose everything if flood occurs and they
did not diversify into other activities earlier. On the other hand, if such households were keeping animals or birds then the vulnerability that affected the vegetable farm might not affect the others, and they turn to such as cushion effect.

1.10 Unique Contribution of the Research

Through answering the research question and addressing the focus areas listed, this research makes the following unique contribution to urban poverty research. Drawing its motivation from the knowledge gap presented in section 1.6.

1. Demonstrate why the definition of urban agriculture should be city specific in relations to the features of UA, built environment and the local economy of the "particular" city.

2. Illustrate the interaction between informality, poor urban households and social networks of urban agriculture through the diversity of the urban households' livelihood.

3. Develop a framework for studying informality, which is; informal (relations, institution, and networks) and its interactions with urban agriculture. Using Legacies, Linkages, Localities, and access to Land (the social relations of urban agriculture framework).

4. When policy makers see poor people engaging in different activities in informality; it is assumed they are diversifying. My research shows that a lot happens within these processes by given specificity to the story of diversity in poor urban households’ livelihoods economic activities.

1.11 Structure of the thesis

In addressing the research question, the thesis begins with the first chapters which explain the broad concept of urban agriculture and how it has been used as a poverty reduction intervention. Introduction of urban poverty as a multi-dimensional phenomenon which needs constant research into ways of addressing it was made. This chapter signposted why studying urban agriculture through the lens of informal economy was worth doing in PHC. This led to review of poverty reduction strategies in the global south and that helped the researcher to identify the knowledge gap which
the research intends to fill. The research site of Rukpokwu was introduced and knowledge of the locality and its vibrancy made the case for UA as a poverty reduction strategy in the global south. In section 1.8, this research addresses what people need to know about urban agriculture in PHC and why this research is important in respect to development challenges faced by cities in the global south.

In chapter two, I considered three interlocking sets of literature that are often brought together in discussions of urban agriculture. I showed how a ‘virtuous circle’ can be conceived when urban agriculture is related to urban poverty reduction in the context of pervasive informal economies. In such conceptions, the features of urban agriculture interact with the motivations to reduce impoverishment in an economic environment of informality that is conducive to small-scale activities that, at least initially, would find bureaucratic costs unduly burdensome.

Chapter three builds a conceptual framework to focus on the social relations of urban agriculture. As part of ensuring precision, I moved from the broad discussion of urban agriculture to a specific understanding to be operationalised in the thesis. The conceptual framework is developed by bringing together two theoretical approaches. This framework enables me to focus on the social relations of urban agriculture in Port Harcourt City.

Chapter Four uses the analytical framework presented in chapter three to frame the methodological approach and methods of the study, adopting a case study approach and mixed methods. The study is designed with an inductive approach (taking us from theory into empirical). This chapter begins by providing the research approach, which is mainly based on qualitative methods supported by some quantitative data. The chapter then operationalises relevant theoretical concepts before presenting the methods used to examine the arguments both in terms of data collation and analysis. The research instruments are designed to collect data from both primary and secondary sources such as reviews of grey literature, closed-ended questionnaires, detailed interview, and focus group discussions.

Chapter Five, brings the concept of urban agriculture in Port Harcourt City to the fore. It does this by explaining the research background, study area and participants. The
legal framework on land use planning legislation and environment in PHC, Nigeria is
explored here. It goes further to review the phases of land reforms in Nigeria and the
place of the urban farmers (emphasis laid on the Land Use Act 1978). The results from
the fieldwork are then presented and analysed in depth to reveal the delicate balance
between informality which urban agriculture is part of in Port Harcourt City and poverty.

Chapter Six answers my research question of "why do urban households in Rukpokwu
area of Port Harcourt City start, diversify within and move out of UA?". It does this by
examining the different configurations of factors and elements that make up the
categories of legacies, linkages, localities, and land. It examines the role legacies of
birth right plays in determining who gets what, when and where in Rukpokwu. This
chapter explains how the notion of localities has placed Rukpokwu as an attractive
place for informality and new entrants into the city take advantage of this to fend for
their households. The notions of land and linkages further explained why the choice
of Rukpokwu as an entry point into this research was the best option to me. The land
relations and socio-political issues that govern its transactions and the linkages of the
people of Rukpokwu to the other parts of the city and state is made clearer in this
chapter.

Chapter Seven concludes the thesis and attempts to link together evidences and
themes arising from the empirical investigation with broader issues outlined in the
opening chapters. The chapter is divided into three parts; (1) deals with the summary
of the various preceding chapters (2) presents what I have found from the research
and what it means as the answer to my research question (3) explains the limitations
of the social relations of urban agriculture framework and suggest ways to improve
future research. The potentially productive areas of this research are shown, and
recommendation for future work highlighted. It also critically reviews questions of
process and methodology, looking at possible replication and generalisation of the
research across Nigeria.
1.12 Conclusion

This chapter has introduced the concept of urban agriculture and how it is intertwined with urban poverty and informality in PHC. All three phenomena can trace aspects of current processes back to the violence of the structural adjustment policies of the late 1970s and early 1980s. The case for how policymakers can use informality and UA to plan for poverty reduction in the global south is made in this chapter. This chapter made a case for UA as part of the informal economy. Nigerian poverty reduction strategies from the 1970s-2019 were highlighted, making the case that they have always been top-down and tied to elected governments at the centre (Abuja). It reflected on how to study poverty in the global south, focusing on the three new approaches. The research gap was identified and explained why it is essential to study urban poverty in the global south using informality.

A case of Port Harcourt City as the main focus of this study was highlighted, explaining why the focus on Nigeria and why particularly the Rukpokwu area of Port Harcourt City. The Nigerian Land Use Act 1978 was introduced, and its implications to urban agriculture workers were examined. The research question, the focus of the research and the unique contribution of this research on urban poverty research were presented. The chapter then concluded by presenting the structure of the thesis.
CHAPTER TWO

Urban Agriculture, Poverty and Planning

Growing urban poverty goes hand in hand with food insecurity and malnutrition in the urban areas. Both in the South and in the North, especially in the bigger cities, the urban poor find it increasingly difficult to access food. Food composes a substantial part of urban household expenditures (60-70%) and lack of cash income translates more directly into food shortages and malnutrition in the city context. Urban agriculture has the tendency to bridge these gaps between poor urban households and food security. Marielle Dubbeling, 2011.

Introduction

This chapter traces out the relations between urban agriculture, urban poverty and the urban informal economy. As the chapter will show, there are strong and reinforcing relations between each of these phenomena and they have been explored in depth. In the light of such relations, advocates for urban agriculture have been drawn to the positive outcomes that characterise how urban agriculture can translate into reductions in poverty within the context of informal economies. The success of such outcomes have been important in the policy advocacy to promote urban agriculture in many cities in the global South. The argument of this chapter, however, is that, in promoting these benefits of urban agriculture, the social relations that are part of urban agriculture have tended to be overlooked. As a whole, my thesis aims to address this issue and show the importance of attending to the social relations of urban agriculture. Thus, this chapter clarifies the concept of urban agriculture used in this research and locates it in a series of debates about what urban agriculture is, and how it is linked to urban poverty and urban informal economies. It is an intersection of these debates that justifies the research question of the thesis.

To begin with, I present ‘urban agriculture’ in a broad sense. This broad sense encapsulates the specific understanding of urban agriculture that I focus on in the thesis. I end the chapter with a focus on the specific understanding of urban agriculture that is used in this research. However, for the moment, the broad use of the term is important because it allows me to sketch out the key relationships in the literature that
I wish to consider in more detail later. Thus, I develop an overview of the features of urban agriculture in order to provide a general sense of urban agriculture as an activity. Different scholars draw attention to different aspects of urban agriculture in defining what it is they are working on. For example, some privilege differences between ‘rural’ agriculture and ‘urban’ agriculture. Others include a distinction between ‘rural’, ‘urban’ and ‘commercial’ agriculture. Yet others draw attention to the ‘urban’ qualities of urban agriculture (such as proximity to urban centres and/or inclusion in urban master plans), the aim, output (such as types of products grown) and size of plots used in practicing urban agriculture.

This overview provides a platform to make sense of the way I present how scholars have tended to classify urban agriculture. These classifications are important because they have been influential in how scholars and policy-makers have settled on definitions of urban agriculture. Such definitions are consequential in policy terms and have also provided ways to conceptualise the links between urban agriculture and poverty, and urban agriculture and informality. I therefore introduce these concepts in order to locate the rationale for this study and provide a background for the conceptual chapter to follow.

2.1 Features of Urban Agriculture

These distinguishing features serve to provide an introductory sense of the broad contours of urban agriculture. Despite being a broad brush, they are also important for the definition of urban agriculture that I focus on to execute this research. I draw eight distinguishing features of urban agriculture from the broader literature: production, ease of entry and exit, land tenure, financing, labour relations, storage and preservation, relationship to the environment being mediated by the built environment and proximity to market. These features are important in also providing a central element of the conceptual framework I develop in the next chapter.
Production

Urban agriculture often has long and complicated value chains. Considering all of the different steps in such value chains will provide a comprehensive understanding of different aspects of urban agriculture, see for example the *filieres* approach (Lançon, Temple and Biénabe, 2017). However, such an approach is beyond the scope of this thesis and I focus specifically on the production phase of urban agriculture. By this I mean the planting of crops, herbs and flowers and/or rearing of animals, birds or fish. In this form, the motivation to engage in urban agriculture often comes from the urgent and immediate need to secure, and improve the quality of, the household’s food supply. Production is thus (initially) primarily for household consumption and then sale of excess goods.

Entry and Exit Points

The barriers to entry and exit urban agricultural activities are clearly dependent on the scale, location and type of production. The greater the scale, the more investment in a location, and the more intricately or sensitively embedded in food supply chains are all likely to make entry and exit costs higher. Nevertheless, the form of urban agriculture I am focusing on tends to have lower – although clearly not negligible – barriers to entry and exit. In part, this comes from practitioners requiring little or no formal education. Instead, they rely on high levels of indigenous or tacit knowledge. Thus, it can be argued that a key barrier to entry – formal educational qualifications – is minimal. In part, it comes from the relative attractiveness of other opportunities (mostly in the informal economy) and in part, it can be left relatively easily without significant losses in investment. Together, Ellis & Allison (2001) argued that the entry and exit points are important to proponents of UA, as it is an activity seen by those engaging with it as an add-on to what they have been doing pending when other opportunities become available and exit it because of its lack of social security or loss of assets.
Land Access and Tenure

The way that urban farmers access land and the conditions under which they hold the land are key features of urban agriculture. Land access and tenure are important in different ways. For example, Lynch, Binns and Olofin (2001) argued that the availability and access to urban land is a severe problem facing practitioners in many cities in the global South. In cases where there is land physically available for urban agriculture, Ezedinma and Chukuezi (1999) argued that the tenure relations through which it is held, might make it inaccessible. Furthermore, Drechsel and Dongus (2010) argued that the quality of the tenure relations are also important because tenure insecurity tends to undermine the productivity and profitability of urban agriculture. As a counterpoint, research on urban agriculture in cities (such as Accra and Kampala) where land access is relatively easy and tenure secured, has shown that practitioners increase their aspirations to engage with urban agriculture. However, it is not always that urban agriculture becomes difficult where it is difficult to access land and tenure is insecure.

There are ways in which urban agriculture can develop – if perhaps not consolidate – in contexts where land availability and tenure security is low. Here the examples of many cities in the global south with weak and fragmented land administration systems come to mind (Marx, 2009, 2016). For example, in contexts where land racketeers take advantage of opportunities to sell land on multiple occasions, a physical presence on land is important to sustain tenure claims. In this way, active (but always temporary) urban agricultural practices on the land can play a meaningful role in providing security to landowners and a livelihood to the agriculturists. This is mainly due to the relatively lower barriers to entry and exit presented above.

Financing

No matter how low the barriers to entry, there is always a level of financial investment required. The urban economy is more cash based than the rural economy in which rural agriculture is placed and, also differs in financing scale with commercial
agriculture. To finance activities in urban agriculture, it requires more finance than that of the rural agriculture. The fact that most of the UA workers operate on a small scale means it is difficult to attract the kind of financing that is associated with commercial agriculture. Understanding these differences associated with urban agriculture, helps during its definitions to differentiate it from rural and commercial agriculture.

Financing urban agriculture is complex and dynamic. It involves a combination of resource mobilisation, both monetary and non-monetary, with savings and subsidies (Cabannes, 2012). I work with this broad definition of financing to include all informal processes that urban households seek support from in UA. For most small-scale urban farmers, the lack of access to financing is a major bottleneck in their capability to maintain and expand their activities, and more generally in the potential for scaling up affordable food production in cities (Egbuna, 2010). Research undertaken by local teams in 17 cities of different sizes in Latin America, Asia and Africa show that urban farmers are financing their activities (production-marketing), essentially with their own resources, but are willing to accept states involvement in financing through provision of short term loans from the micro-finance (Tanner and Mitchell, 2009).

From my personal experience, one of the ways UA is self-financing is through the labour relation, in the case of shared labour an urban farmer can take shared labour to another person’s farm and collect money in return. While rural and commercial agriculture farmers might be able to obtain credit facilities because of the bigger sizes of plots which in-turn can be used as collateral, the urban farmers do not have such privilege. Most of them do not have secure land tenure and those that have might be insignificant.

**Labour Relations**

Every link in the web of urban agricultural activities involves labour considerations, and thus, labour relations. In comparison to commercial agriculture significant differences can be drawn out. Working with the framework From Seed to Table, Dubbeling (2011) explained that the value chain of UA made it clearer for urban households to use members in accomplishing labour requirements. While mechanised
agriculture can boost specialised inputs and systems, rural agriculture uses large plots accompanied by hired labours. Urban agriculture, whose main aim is feeding the households, extracts labour from among household members. Labour relations mobilises family, mediated by cash economy, gender and other employment alternatives – all in ways that are different from commercial and rural agriculture. In addition, the confined spaces of urban agriculture create a reliance on labour to engage in almost all tasks and is therefore key to whether households are able to engage with urban agriculture.

Storage and Preservation

Urban agricultural production tends to be characterised by poor preservation and storage methods. Preservation and storage are expensive and can easily outweigh the financial benefit. On a world-wide basis, post-harvest losses of durable crops are estimated at 10%, but in the global south, losses of more than 20% are frequently encountered due to poor storage facilities among urban farmers (Kuusaana & Eledi 2015; Roy 2005). This will mean that urban agricultural producers avoid investing in crops that perish easily. An example is the production of tomatoes in Port Harcourt City. Such crops add little value to the business of UA workers without proper storage since it is a seasonal crop in PHC and once all the farmers harvest them to the markets there are surpluses and the market value plummets. After due consideration of this feature if an urban household wants to engage with UA, such households avoid UA of tomatoes on a larger scale but consider other crops (yam, maize, cassava in large scale). Overcoming the problems of waste (leftovers) in UA of PHC has been a problem especially in the peak of the harvest season where seasonal crops are harvested by all the urban farmers at the same time.

In order to minimise post-harvest loss and avoid high costs in preservation and storage, urban agricultural producers often turn to traditional methods of food preservation. For example, in Port Harcourt City, fish are steamed, dried, cooked; cassava is processed into garri and tomatoes are blended and steamed for preservation and storage.
**Built Environment**

The built fabric of the city mediates urban agricultural practice and introduces special challenges. Cities have less space, they are more fragmented in terms of land uses, it is more difficult to conceive of using mechanised systems, and the use of fertilisers and pesticides is more restricted. A further issue is the cultural view that cities and agriculture are incompatible. The view that cities are not places for farming is commonplace (Brown-Luthango, 2011). However, possibly the most important factor is the competition urban agriculture faces from other higher financial-yield land uses. Urban agriculture tends to be a lower financial yield and therefore susceptible to displacement in a competitive land market.

**Proximity to Market**

The contextual feature of urban agriculture being practiced within the built environment is not only a challenge to producers but also an opportunity. In 2011, research showed that Cuba’s urban farmers provided the city's urban population with 8,500 tons of agricultural produce, 4 million dozen of flowers, 7.5 million eggs, and 3,650 tons of meat (Altieri and Toledo, 2011; Viljoen and Bohn, 2012). There is thus a large market and urban agricultural producer’s proximity to markets enables them to respond quickly to supply and demand dynamics. In line with the observations about preservation and storage, urban agricultural producers tend to work on the premise that they harvest today, allocate what is needed in terms of household consumption requirements and then sell the remainder. If they have leftovers, they either dash to extended family members or risk losing them because of lack of storage and preservation facilities. Therefore, in urban agriculture the market is the immediate environment.

In summary, these eight features of urban agriculture in the global South provide a broad sense of the nature of activities that are under consideration in this research. Urban agriculture is very different to both mechanised, commercial agriculture and peasant farming systems in rural areas. In its nature, urban agriculture therefore has
different relations to its environment and the ways it is practiced thus introducing the need to attend to the social relations it is dependent on.

2.2 Classifications of Urban Agriculture

This section reviews the three main axes along which urban agriculture has tended to have been classified. The classifications privilege different combinations of features of urban agriculture. Even though a focus on social relations has not been a focus of broader scholarship on urban agriculture, it is useful to consider the ways in which it has tended to be classified. Such classifications are important when it comes to producing definitions of urban agriculture that can be mobilised in policy terms. Each classification can be understood as responding to the priorities of particular contexts. Setting out these classifications therefore conveys some of the richness in scholarly accounts and the variety of contexts in which urban agriculture has been advocated for. The three axes are: working with an abstract notion of urban agriculture versus a highly contextualised one; by type of crop produced or livestock raised; and the degree of market orientation of the agricultural activities. Scholars have used these classifications to highlight different aspects of agricultural practices and in relation to different arguments they wish to make. However, despite any differences, an assumption that unites different classifications is that urban agriculture is a part of an urban food production system.

Goldstein et al., (2016) gave an overview of the various approaches to urban production systems and the possibility to develop a typology to explore them. They identified the difficulty in arriving at a consensus typology that will form a sound basis for identifying basic development strategies for each type of UA and policy development and action planning as the main challenge to researchers. Drechsel & Dongus (2010) argued that classification of UA differs with the criteria used, saying location and size of farm are important. Barthel & Isendahl (2013) further argued that production aims, predominance of crops or animals or intensity of production are the best criteria to classify urban agriculture.
One way of encapsulating this variety has been to call for a two-fold division of types. Scott et al., (2010) argue single criteria and the multiple criteria classifications. They named the determinants of single criteria as; location and tenure, main crop produced and animal raised, degree of market-orientation, scale and intensity of production. All of the above plus factors such as, access to irrigation water and location to next crop choice were used to classify the multiple criteria in Accra (Moustier and Danso, 2006; Veenhuizen and Danso, 2007).

**Location and Tenure**

In classifying UA, the location where the activities are carried out is used as an important criterion. Smit & Nasr (1992) argued that UA supplies fresh produce to the host cities and thus the location of UA is very important to fulfil this. Taiwo (2014) further said that location points to specific constraints and opportunities such as; degree of land access, land tenure situation, costs and time related to traveling, risk and closeness to market. Mougeot (2011) argued that there have always been efforts to distinguish between intra-urban agriculture and peri-urban agriculture, and this is done on the basis of distance to the city centre or travel time by public transport, administrative boundaries and population density. In relation to the intra- and peri-urban debates which distinguishes agricultural practices in different locations in the cities, UA activities can take place in the city centre and on the edges of the urban area (Agarwal, 2001; Cofie and Awuah, 2008; Drechsel and Dongus, 2010).

The success in the practices of urban agriculture depends mostly on the tenure of the land that it is practiced than just the location of such land (Barry & Danso, 2014). Otsuka et al., (2003) argued that no matter how close or distance to the city centre urban agriculture land is, if the tenure is not secured that the farmer finds it difficult to diversify. They further noted: while location of such land is important for accessibility and type of UA in relation to the built environment, the tenure of such land is more important. Thus, Steward (2007) argued that farm land that is located within the network of roads, markets, within proximity to the city and have a secure tenure is the desire of anyone engaging with urban agriculture.
On her part, Dubbeling (2011) distinguished between UA on private’ land (owned lease) ‘public’ land (parks, conservation areas, along roads/railways) and semi-public (schools, hospitals, prisons). She said private land, though gives the owner the security of tenure and freedom to use such land how it is deemed, it must abide by the city bylaws. Public lands are those which public amenities are sited on and most of the agriculture practices on such land are not always recognised (encroachment). Semi-public lands are said to be those public land that are under the authority or whoever is in charge of such institution where it is located. She concluded that the sustainability of the location and specific cultivation system of UA is hinged on the land tenure system accessed by the urban agriculture workers. Therefore, relating this to the features of UA, the location of UA plays a role in its success but the tenure of the land such UA is practiced is equally important.

Another way to approach these issues is to use Tevera & Simelane (2014) approach and subdivide urban agriculture into two types: intra-urban and peri-urban. Studies use the term intra-urban agriculture for production that takes place in the inner city and peri-urban for that on the edges of the city (Mougeot, 2000; Tevera & Simelane, 2014). Most cities in the developed countries have vacant and under-utilised spaces that are or can be used for UA and that is why this concept (inter and peri-urban) came up. In most cities, after the introduction of SAP in the 1980s, agricultural production moved towards the (peri-urban) edges of the cities (Afrane et al., 2004 and Shimada, 1999). In the inner cities, urban farmers still make use of schools, church yards, unused land and road/rail sides but they have all come with various challenges. These challenges range from theft, vandalism, public health risks and lack of irrigation means or irrigating vegetables with untreated wastewater.

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7 They divided UA into two intra and peri-urban to explain what the concept is and how its interactions with the built environment is received by other users of such environment.

8 Urban farmers were encouraged to let go of their urban land and move rural and peri-urban to continue producing more and urban land were also in demand for housing and other urban use.
Main Crops and/or Animals

The second axis along which scholars have tended to classify urban agriculture is in terms of the main crops farmed or animals raised. In this view, the determinants of what to produce and how to produce them in UA are social, economic and physical factors. Oladapo Sam (2014) argued that in most cities, the choice of what to produce in UA depends on the choice of the main diet and food of people living in such city. According to Nwagbara (2011), in Nigeria for instance, during and after the SAPs, households that were forced by policies to abandon their assets (land) in the cities and relocate to the rural areas to continue agriculture, did not abandon their traditional crops. Arowosegbe (2016) further argued that during this same period, because the local diets (e.g. garri, eba, fufu) were not part of the food imports, urban farmers who moved towards the edges/periphery of the cities maintained planting them. According to Ward & Shackleton (2016), the climate, culture, soil condition, socio-economic conditions and most especially the informal networks these people operated in, influence these dynamics. Eigenbrod & Gruda (2015) further said these people borrow, share and replant seeds between their networks and make use of shared labour, which developed out of these informal networks and relations that they have built with time. Taiwo (2014) and Aduku et al., (1991) concluded that the same applies to livestock, for example, the goats kept in PHC (southern Nigeria) are different from those raised in the Northern part of Nigeria.

Crops production and livestock keeping tends to be maintained by different households in urban production system but both are greatly influenced by land tenure. According to Adeoti et al., (2011), households that have a secure tenure practiced mix farming (crops, animals and poultry). Mixed farming involves the growing of crops and raising of animals on the same piece of land and the system feed itself when fully utilised. Three main production systems were identified by Vagneron (2007) in UA and they are; specialised production system which is devoted to a single crop or animal. Mixed production system, which combines two activities and hybrid production systems, which combines more than two activities. This research viewed these typologies and sees significant linkage between them, urban and rural farmer in the area of sharing (seeds, compost, farm tools, and indigenous knowledge).
Degree of Market Orientation

The final axis of classifications relates to the extent to which the agricultural production is focused on commercial gain. Once again, there are a number of different points along the axis. Towards the commercial end of the axis, Mkwambisi et al., (2011) argued that urban agriculture consist of two distinct and separated subsectors and they are, commercial horticulture and the crops/livestock industry. Mougeot (2000) further argued that the crop/livestock industry is what provides majority of the desired food for the households in the global south through UA. Lynch et al., (2013) argued that both of these subsectors of UA have a significant effect on food security in the particular cities where UA is practiced.

At the household provisioning end of the axis, an important part of UA production is for the household consumption and the surplus is then sold. This goes on to support the argument that poor urban households turn to UA because of poverty and UA have lifted households out of poverty too (Bezemer & Headey, 2008; Cofie et al., 2003a and McNicoll, 2011). However, Brinkley (2012) concluded that the importance of market-orientation in UA, both in volume and economic value should not be disregarded because of its value to the city and those engaging with it.

In summary, these three axes of classification have served to orient scholars and policy advocates in different contexts. It is evident that each axis prioritises different features of urban agriculture in order to highlight the different possibilities urban agriculture offers cities and their residents. One of the key orientations of the different classifications has been the relationships between urban agriculture and poverty reduction.

2.3 Urban Agriculture and Poverty Reduction

There are two obvious ways in which urban agriculture can be related to poverty reduction. First, as a means of securing fresh food for the household and second, as a means of earning money which will reduce poverty measured in income terms. This section considers these relationships and others in more depth in order to sketch out
how the thesis aims to contribute to understandings of this relationship. In particular, while urban agriculture has always had a strong and obvious relationship to poverty reduction initiatives, this relationship has tended to be considered in terms of the eventual outputs. That is, food security and increases in income. This has meant that how people have engaged urban agriculture (and the inherent inequalities in such processes) have tended to be overlooked.

**Food Security and Nutrition**

The contribution to urban healthy eating and food security of poor urban households is the greatest contributions of UA in the global south. Factors such as lack of purchasing power, inadequate, irregular and unreliable access to food has been seen as reasons why poor households turns to urban agriculture in the global south (Tambwe, Rudolph and Greenstein, 2011; Taiwo, 2013). It is evident that poverty motivates poor urban households towards engaging with urban agriculture (Mkwambisi, Fraser and Dougill, 2011). As Steel (2008) put it, food and the city have built a cordial relationship but the cost of supplying food to the cities from the rural areas and the intricacies of its distribution has been a challenge to cities until today. As a consequence, if UA is not harnessed by city authorities, the difficulties faced by poor urban households will only increase and add to the urban food insecurity (Shillington, 2013; Battersby *et al.*, 2014).

As seen in cities such as Accra, Kampala and Ibadan where UA is encouraged, when these urban farmers have had their food security secured, they tend to sell to add extra money to the households’ savings (Chilowa, 1998; Cabannes and Raposo, 2013). Studies in Kampala shows that UA which started as a survival strategy has now become a business where households are making profit on their investments (Mawois, Aubry and Le Bail, 2011; Tambwe, Rudolph and Greenstein, 2011; Battersby *et al.*, 2014; Warshawsky, 2016). These urban farmers are feeding urban residents by supplying large quantities of food into the urban markets. Accordingly, FAO (2013) estimates that 200 million urban residents produce food supplying about 30% of the world food to the urban centres that host them. These are ways UA is contributing to urban food security and nutrition in the world.
**Household Income and Local Economic Development**

UA is an important source of income for significant number of urban households (see chapter 5). In addition to the money these households make from selling their produces after feeding, they also save money by growing their households’ food needs. This is significant since it is estimated that poor households spend between 60%-70% of their household income on food purchases (Maxwell 1999; Dubbeling 2011). Since urban agriculture is based in a particular city and considers the economy of such city (features of urban agriculture section 2.2), it helps develop the local economy by supplying the city’s food needs. Gains including funds raised from crops, animals and other outputs sales are reinvested into other sectors of the city economy such as school fees, taxes, transportation, glossaries, clothing and rent payments.

Urban agriculture improves the growth of small scale industries as seen in the definition of the (WIEGO, 2010; ILO, 2013) where they defined UA using the term “industry”. UA activities are supported through the provision of necessary agricultural inputs and processing/supplies of the by-products through NGOs and government agencies. Therefore, households that are not involved in the production phase of UA can take advantage of the processing phase or marketing/distribution phase or recycling and thereby making this industry (UA) a viable intervention for urban households. These are ways urban agriculture contributes towards the local economy development of its host cities.

**Social Impact**

UA plays a critical role in the lives of disadvantaged poor urban households, which may include (HIV/AIDS-affected households, disabled people, widows/female headed households, unemployed youths and migrants). It does these through its mediation as a poverty reduction intervention strategy (Ellis and Mdoe, 2003) and social inclusion (Cofie, Veenhuizen and Drechsel, 2003b; Niehof, 2004; Cabannes and Raposo, 2013). With the broader aim of integrating them more firmly into the urban network and providing them with a decent livelihood and preventing social problems such as drugs and crimes (Veenhuizen and Danso, 2007; Gertler, 2010). RUAF did this in its
project called women feeding cities in South Africa and lives of women affected by HIV/AIDS improved (McNicoll, 2011). UA farms acts as healing and educational sites for citizens in providing therapeutic spaces to rehabilitate members of the community through interaction with nature (Mougeot, 2000; Cofie, Veenhuizen and Drechsel, 2003b; Adedeji and Ademiluyi, 2009).

**Contribution to Urban Development Management**

Thinking of the rural-urban linkages in the global south, where foods are produced in the rural areas to feed the cities and the cities’ domestic wastes are transported and dumped in the rural areas (Orsini *et al.*, 2013). UA contributes to manage this situation through composting, making use of poultry and domestic wastes thereby turning urban waste into productive resources (Gupta and Gangopadhyay, 2006). Wastewater reuse in the irrigation process and maintenance of biodiversity through the replanting of seeds and tubers are part of the sustainability aspect of UA. It also reduces the ecological footprint of the cities by producing fresh food close to the consumers, something Smit and Nasr (1992) called food with the farmer’s face. Therefore, UA contributes to urban development management by reducing energy used for transportation, packaging and cooling/preserving food that feed cities.

In summary, this section has presented the different ways in which urban agriculture is related to poverty reduction initiatives. There is evidently a strong and important relationship, but it has tended to be considered in terms of outcomes rather than what it means in terms of processes. I will return to the social relations of poverty in discussions of the determinants of livelihood diversification in the next chapter. Before this however, it is necessary to sketch out the broader relations between urban agriculture and informality. Once I have done this, I will have presented understandings of the aspects of three main interacting relationships that structure the thesis: urban agriculture, informal economy and urban poverty.
2.4 Urban Agriculture and Informal Economy

This section examines the relationships that have been presented between urban agriculture and the informal economy. The section provides a brief overview of conceptualisations of informal economy because the following chapter will go into these issues in more depth. At this point, the intention is to look out from an urban agricultural perspective and consider how urban agricultural advocates have related to issues in the informal economy.

There is, of course, significant debate about the utility of the concept of ‘informal economy’. Not least, in Nigeria, where commentators have posed the question of the value of identifying the ‘informal economy’ as something distinct: “why contextualise the informal and formal economy separately” since there is both informality in the formal and formality in the informal. Understanding how both economies intertwine in countries of the global south and Port Harcourt city Nigeria will help shape the arguments presented in this study.

According to Guha-khasnobis et al., (2006) in development discourse, thinking of the dichotomy between the formal-informal, someone may expect to see a clear definition of the concepts regularly applied when they are mentioned across theory, policies and empirical studies, but such things are not found. They argued that it is better to think formal and informal as images that summon a mental picture of whatever the user had in mind at that given time. Nevertheless, the concept of the informal economy does resonate powerfully in state-based ‘formal’ policy and there are a series of characteristics that have come to be associated with the ‘informal economy’ (even if some of these characteristics are also found elsewhere in the economy).

2.5 Characteristics of the ‘Informal Economy’ in the Global South

In this section, I single out four characteristics that tend to be associated with the urban informal economy in the global South. These four features find great resonance with the features of urban agriculture presented earlier and hence, go a long way to explaining why advocates of urban agriculture see such practices as viable.
The first characteristic is that the informal economy is associated with low barriers to entry and exit. A key part of this is that the requirement for expensive (in terms of time and money) fulfilment of bureaucratic regulations tends to be absent (Chen, 2007). Perhaps more importantly thought, the informal economy often requires little formal education and it is seen as a means of entering into the labour market of various cities of the urban global south (Horn, 2010). Thus, as pointed out above, if urban agriculture is in large part based on the use of tacit and indigenous knowledge, then it can be more easily practiced in informal economic contexts. Therefore, low entry barriers help people in the informal economy to get back to work and improve their accessibility to food and increase in household finance.

The second characteristic is that economic activities and outputs tend to be unrecorded by state-based institutions. The informal economy is seen in such a way that its actors do not pay taxes and the regulations associated with the formal economy do not impact on them. However, most of the organisations in the informal economy have their rules and norms that govern their operations (Chen, 2006a and Elgin & Oyvat, 2013). In the real sense, these issues seem to be a mirage compared to realities on ground. For example, hawkers in traffic selling various products in PHC pay taxes in form of daily tickets administered to them by LGA contractors of PHC and Obio/Akpor LGAs. From the hawkers, to the food vendors, shoemakers, informal security personnel, urban casual workers, roadside mechanics and the urban agriculture workers they all pay sanitation fees. The problem here is must of them do not know who they are paying the money to. This is because anyone can come with a ticket and wearing an apron and claim to be the agent assigned to collect taxes. Despite the payments associated with such practices, neither the activities nor outputs are usually recorded in any public institution. This means that urban agriculture can sometimes get a foothold in locations that might otherwise be prohibitively expensive or bureaucratically onerous.

The third characteristic is that a large part (although clearly not all of it) of the informal economy is configured around very small quantities and payments. This is a reflection

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9 Port Harcourt City and Obio/Akpor local government authorities are the two local authorities that form the old Port Harcourt City.
of the low levels of income of the majority of urban residents. The small-scale nature of these quantities and payments mean that activities like urban agriculture can be initiated without unduly burdensome financial consequences and that small-scale production can find many different kinds of niches for distribution and sales. While the low levels of income and the small-scale nature of activities facilitate initiating urban agricultural production, they can also act as a brake on production. This is because they can limit the ability to accumulate wealth and thus move production to more secure locations or access more profitable distribution channels. Having said this however, where urban agriculture is successful and profitable, the producers can achieve sustainable financial incomes. For example, in PHC, the minimum wage of formal civil servants stands at 18,000 Naira\(^{10}\), which is approximately £50. In 2018 a basin of garri, a by-product of cassava, sold at 5,000 Naira and, at this level, enables accumulation.

The final characteristic that I single out is the way that financial credit networks tend to be configured in informal economies. The status of being an economic activity in the informal economy typically precludes any significant access to state-based or backed credit facilities. Informal economic activities are thereby denied access to credit to increase production in the ‘formal’ economy. This can be a serious impediment to growth. Even if formal credit is available, the urban agricultural producers can rarely offer any collateral or assurance required by creditors. In practice, this means that ‘middlemen’ emerge to exploit the structural problems. These ‘middlemen’ pay producers ahead of the planting season and typically underpay for the number of crops they take during harvest season. These types of arrangements have made the urban agriculture workers in PHC like other cities of Africa call for better funding of the sector through NGOs and LGAs (Dubbeling, Zeeuw and Veenhuizen, 2010).

Together, these four characteristics have enabled advocates of urban agriculture to find many resonances between urban agricultural production and the contexts of informal economies. It has enabled them to point to both the outcomes in which urban agricultural production can be initiated and sustained but also restricted. These

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\(^{10}\) Naira is the name of Nigeria’s currency and exchange rate fluctuate between 450/370 to an American dollar between January and September 2017
conditions are often attributable to the ways that informal economic activities can coincide with observations of urban poverty.

2.6 Informal Economy and Urban Poverty

There are multiple ways in which informal economies have been related to urban poverty. In this section, I focus on two – somewhat contradictory – relations in order to provide an overview of the extent of relations. The first relation is that the origins of informal economic activities (and their attendant problems) and urban poverty lie in the same political economic terrain. In this view, the reduction of urban poverty cannot be attained without giving new enthusiasm to the informal economy (Bairoch, 1973; Debrah, 2007). However, in the case of Nigeria, Ekpenyong (2007) argued that minimal attempts have been made to incorporate advances to the informal economy into the investigation of urban poverty. He further said there are at least two basic reasons for this. First, not enough exploration of the affiliation between urban poverty and its incorporation into the informal economy labour market. Second, it has been assumed that any action concerning the informal economy would essentially help to drive out poverty. Baker (2008) continues that in the true sense, the last couples of decades’ economic policy approaches to the informal economy, which have been or are being adopted, have not really appropriate for dealing with the problem of urban poverty. Gibson (2005) concludes that the informal economy may indeed be seen as a particularly valuable means of poverty reduction but until new approaches towards understanding the informal economy is practice the threat will keep lingering.

The second relation is based on the notion of adverse incorporation and explores the ways in which poor individuals or households are incorporated in broader systems of economic activity – usually to their disadvantage. Thus, Ward & Shackleton (2016) argued that not all the activity relating to the informal economy have to do with the most deprived; and poverty is sometimes marked by a specific type of incorporation into the labour market of the formal economy. In other words, Crush & Caesar (2014) argued that urban poverty overlaps the informal/formal dichotomy. Thus, Olajoke et al., (2013) concluded that it may be particularly valuable for drawing up the necessary intervention programmes to determine the relations between vulnerable employment
and poverty, in terms of access to employment and career prospects of urban households.

In summary, these two types of relations between the informal economy and poverty reduction merely sketch out some of the complexities that have informed policy making. In this complexity the informal economy can be both cause and outcome of urban poverty and *vice versa*. In this context, and at the intersection of urban agriculture, urban informal economies and urban poverty and the outcomes of their interactions it is therefore justified to inquire as to: how do urban households in Port Harcourt start, diversify within, and move out of the production phase of urban agriculture?

### 2.7 Conclusion

This chapter shows that the conceptual relations between urban agriculture and poverty reduction initiatives and the informal economy are well established and closely interlinked. Urban agriculture addresses a key component of urban poverty in potentially addressing food security and nutrition deficiencies and reducing cash consumption on food items. Income poverty can be reduced through the cultivation of produce for sale thereby increasing incomes and reducing vulnerabilities. The informal economy provides a conducive environment in that many of the features of the informal economy (low barriers to entry, small-scale and lack of regulations, for example) enable urban agricultural activities to take root and be sustained. The informal economy provides a means to address poverty because it enables produce to be distributed and sold at relatively low financial cost. In the light of the positive feedback loops between the different social phenomena, it is not hard to think in terms of ‘virtuous circles’ that can be promoted by advocates of urban agriculture who are concerned about urban poverty and who recognise the realities of informal economies in many cities in the global South.

There is clearly a lot to be gained both in practical terms of the lived realities of many poor urban households and by advocates of urban agriculture in promoting such a view. However, as the chapter has also shown, the relations between urban agriculture, poverty reduction and informal economy tend to be considered in terms of
outcomes. Thus, more urban agriculture translates into less poverty and less dependence on the informal economy. What tends to get neglected are the social relations that characterise urban agriculture itself and which already operate through the way in which people start, diversify within and leave urban agriculture. Since these social relations are a product of inequalities in societies, they play a role in shaping how urban agriculture operates and must be attended to, to ensure that urban agriculture can support many of the positive features that it is associated with.
CHAPTER THREE

The Social Relations of Urban Agriculture

Introduction

This chapter conceptualises the social relations of urban agriculture by bringing the features of urban agriculture, practiced by poor urban households into a framework based on the sociality of informal economies and the determinants of livelihood diversification. In so doing, what I am proposing to do is create a framework to conceptualise how the social processes unfold of engaging in, diversifying within and leaving urban agriculture in Port Harcourt City. Building on the features of urban agriculture and motivations arising from impoverishment discussed in the previous chapter, I now add two new elements: an approach to analyse the sociality of informal economies and the determinants of livelihood diversification.

The sociality of the informal economy draws strongly on the way Kate Meagher has developed a social network approach in the urban Nigerian context. This approach has been developed to address the extensivity and complexity of urban informal economic activities and the restrictions inherited with a binary understanding of in/formal economies. I therefore discuss the ways in which informal economic activities are extensive and complex in Nigeria before moving on to Meagher’s framework. I then go on to add another element to her approach in order to address the specificities of urban agriculture.

The determinants of livelihood diversification arise from the sustainable livelihoods approach to poverty and I abstract them from this broader approach in order to consider them as contextual features that both drive and mould economic engagements in urban agriculture. The sustainable livelihoods approach has been an important way of understanding urban poverty. Here I use it to anchor the analysis in urban poverty but not to explain household’s livelihood decisions about diversifying their livelihood portfolios. Instead, I use the determinants of diversification to focus on
a range of contextual issues that urban agriculture workers are likely to need to engage with in configuring their practices. In this sense, they serve to mark out the issues around which engagements in urban agriculture can be traced and hence, revealing what social relations of urban agriculture need to address.

I am also aware of the importance of gender and that it is very complicated to deal with it at household level and thus picked up issues as the interview phase of my research proceeded. The complication is even glaring when access to land is discussed (chapter five) and how female members of a family are not given titled ownership of land in Rukpokwu but have access to use such family land. In practice, women are not forbidden ownership of land but traditionally assets such as land is said to be patriarchal and ownership passed from one male generation to another in Rukpokwu. This research did not use gender as an entry point into the study of urban households (men, women and children) who work through informality to provide for themselves. Although, the practices of UA is linked with rural agriculture in terms of inputs and knowledge sharing, I distinguished them to support my argument that UA can be an intervention to address urban poverty in PHC.

The chapter is structured in three parts to develop the conceptual framework. The first part is a fuller discussion of the extensivity and complexity of urban informal economies in general and in Nigeria specifically. The purpose is to justify the turn to an approach to informal economies that is better at comprehending social processes than a binary in/formal distinction will allow. The second part therefore turns to consider Meagher’s sociality of informal economy approach and I modify this to relate more accurately to urban agriculture. The third part discusses my adaptation of the determinants of livelihood diversification in order to acknowledge the importance of contextual factors affecting urban agricultural practice. The three steps provide a platform to present the conceptual framework. The conceptual framework is taken up in the methodology chapter that follows and as guidance in the analysis. However, before taking these steps it is necessary to be more specific about the type of urban agriculture that is being referred to in the research. While the previous chapter discussed different ways of understanding urban agriculture in broad terms and this was sufficient to cover the debates, I now turn briefly to specify what ‘urban agriculture’ refers to in this thesis.
“Urban agriculture” is clearly a compound term, referring to spatial descriptions, processes, products and many different kinds of economic relations. And, within each one of these, there are different levels, scales, stages and intensities of phenomena. It is obvious then, that there are likely to be many different forms of urban agriculture in any particular city. It is also useful to acknowledge that different urban agricultures are likely to have many interrelationships. With, for example, small initiatives developing into more extensive concerns, larger initiatives creating markets for smaller producers and so on. Given that a consideration of all these different forms and their interactions are beyond the scope of my study, I establish a starting point – a working definition of urban agriculture - in order to proceed with the research.

My working definition is informed by my observations and experience of Port Harcourt City. There are high intensity forms such as large green houses or extensive acres within the city and many households that grow vegetables and fruit or raise small livestock in their backyards in the city and both can be considered urban agriculture. However, my focus is somewhere between these two forms and relates to a volume, scale and productive focus are extensive and related to poverty reduction in PHC. Thus, I consider urban agriculture as a set of practices pursued within the built environment of cities, to produce food at a volume beyond that required for household consumption and at a scale requiring a parcel of land exceeding the normal household plot. In other words, I focus on agriculture as a set of practices (that require interactions with others) at the production phase, that take place in the city and beyond the home (that require negotiating access to land).

3.1 Part 1. Informal Economy in Nigeria

This section conceives of ways of approaching the informal economy in Port Harcourt City. It commences with a more detailed analysis of the concept of informal economy before focusing on understandings at the country level and then city level. The purpose of this discussion on the informal economy is to provide an introduction and justification for adopting a social networks approach.
Attention to the informal economy is also important because not only does it provide a context (and different way of understanding the context through social networks) but it also relates to a different thread that runs through the thesis: the lack of integration/consideration of urban agriculture because it is largely considered to be an informal activity that cannot be integrated into the formal.

3.2 A History of the Concept of the Informal Economy

The concept of informal economy was based on empirical data obtained in 1973 from fieldwork among urban workers outside the wage sector in Ghana. These workers were not regarded as part of the (formal) economy because the authorities held no data on their activities (Hart, 1973, 2008). Hart was interested in the productivity of workers in the informal economy and particularly whether their productivity could be increased. This created a long-standing view that the informal economy tends not to be very productive. He based this dualist model of the formal and informal economy on a distinction between wage earning and self-employment. The key variable was whether or not labour was recruited in permanent basis for fixed reward. Accordingly, the informal economy was seen as a means of providing livelihood for the new entrants into the urban labour force, those that do not have employment in the formal economy, mostly due to lack of skills or employment opportunities (Chen, 2007 and Gibson, 2005).

3.3 Defining the Concept of the Informal Economy

Researchers, scholars and policy makers have always found it complicated when issues of defining the informal economy is discussed. A near-recent definition came from Godfrey (2011) which defined informal economy to include any form of informal employment inside/outside the formal economy. Godfrey notes that these types of employment are those that are without any form of labour or social protection. On their part, ILO (2013) observed that informal employment within and outside agriculture, both self-employment in small-unregistered enterprises and wage employment within unprotected jobs are part of the informal economy.

The significant difference in Hart’s approach and earlier dualist model were in the identification of new income-generating activities in the informal economy. In their
work, Moser & Stein (2011) said the semi-automatic classification of unorganised workers as the underemployed shoe-shine boys and sellers of matches contrast with the view which stresses the important part played by these workers in supplying many of the essentials services on which life in the city is dependent. Galiani & Weinschelbaum (2012) argued that Hart’s formulation of the informal economy concept provokes a wide-spread reaction leading to reappraisal of the role and function of small-scale activities in the cities of global south. They concluded that the informal economy has moved from been the Cinderella of underdevelopment and has become a major source of future growth.

When discussing the informal economy in a city economy, identification of the target group becomes very vital, including the dualist model on which it is based. In the works of Hart (2008) it is necessary to clarify whether it is the people or the activities they are involved in you are using to identify them. Carr et al., (2000) noted that when making decision on how the target groups identified in different studies on informal economy comes to bare, it falls into two general categories. They argued that since the key to improving the condition of the urban poor depends on the determinant of their income level, the emphasis should be based on those variables that determine individual’s income. They listed the characteristics as; Personal, Occupational, Employment status, Labour market and Characteristics of the activities or enterprises on which the individual depends. Sathuraman (1976) concluded that once an individual’s income level is raised, his access to basic needs (food, cloths, shelter and urban services) is considerably improved.

**3.4 Key Features of the Informal Economy**

This section deals with the issue of legality and illegality of the informal economy which UA is part of. There is a widespread misconception that the informal economy is somehow illegal or as some researchers say “it is the underground economy” while others call it the criminal or black market economy (Battersby et al., 2014 and Bryld, 2003). For me to unearth the informal economy so that it can be appreciated more, discussing the key features of this economy that have made it stand out will be significant and they include: significance and durability, continuum of economic integration, and segmentation.
In terms of significance and durability, the acceptance that the informal economy is growing improves the recent re-convergence of interest in the sector and has resulted in policy makers acknowledging it more. They now see informal economy on the rise, as a permanent and not just a short-term phenomenon, they said it is the future of modern capitalist development and not just traditional economies (Guha-khasnobis, Kanbur and Ostrom, 2006). They concluded that the informal economy is associated with both growth and global integration. As a result, the informal economy is coming to be seen more as a basic component of the urban economy rather than peripheral to it.

When it comes to a continuum of economic integration, Meagher (2013) argued that the relationship between production, distribution and employment economically tends to fall at some point on the assumption that it is governed by formal and informal arrangements. According to Chen (2005), they are regulated and protected or unregulated and unprotected at the different poles with different categories in-between them. Guha-khasnobis et al., (2006) argued that workers and units are known to move with varying ease and speed along this informal and formal continuum depending on their circumstances.

Medina, Jonelis, & Cangul (2017) argued that the informal and formal economies criss-crosses each other in cities of the global south such as PHC where this research was carried out. For example, informal hawkers in the traffic have to own bank accounts to enable them pay money (internet transfer) to their suppliers in Lagos and then their goods will be sent to them through cargo services. Also, formal banks are now targeting informal women saving groups that contribute money in the market and passes to each other simultaneously (Susu)\(^{11}\) to save the interests in the banks. This is to say, in PHC like other cities in Nigeria and African, the informal and formal economies are dynamically linked. Most formal firms sub-contracted their security jobs to smaller informal firms who hire workers informally without social security and

\(^{11}\) Informal savings system operated in most West African countries. Women come together and contribute money and give to each other depending on the position each of them pick during secret balloting. It is usually on market days and members have a set of informal rules that guides their participation.
contractual terms but they work in these formal firms. Finally, many workers in the informal economy have direct links with the formal firms either through supplies of raw materials, supplies of services through direct or sub-contract or distribution of finished products.

To summarise, Chen (2007) argued that in relation to segmentation, there are always meaningful ways to classify them into two broad categories: self-employment in informal enterprises and wage employment in informal jobs. Maloney (2004) further explained that Self-employment in informal enterprises includes workers in small unregistered or unincorporated enterprises and they include the employers, the unpaid family or household member. This type of relations is seen throughout in the informal economy of PHC, where a household head runs the business and profits come directly to him. The employers are usually paid as they work or daily which sums up seasonality in informality where returns of workers per day depend on the season and work done. Meagher (2013) concluded that in some cases, women sell produce from their farms and hand over the money to their husbands while the unpaid family workers work on the farm all through the farming season but do not get paid.

Wage employment in informal jobs includes workers in formal and informal jobs who do not have any form of social security or fixed employment. According to Chen (2005), this category includes workers that work with households (house-help or domestic servant), casual or day labourers, undeclared/unregistered workers, part-time workers and home workers. During my fieldwork at the social survey phase, we find a lot of these people forming part of the urban households. Therefore, relationships like these distinguished households from families.

Maloney (2004) argued that recently, two significant stylised global facts has emerged out of the segmented informal economy through research findings and other data. The first is that employers of labour in the informal economy have more earnings than the employees and other wageworkers in the sector. The second is that men tend to be over-represented at the top of this segmentation compared to their female counterparts. Chen & Ravallion (2010) said that in the bottom of the segment, women are most represented and the intermediate you see more men and women but it varies across sectors and countries. Chen (2008) said the net result is a significant earning
gap between men and women in the informal economy, men earning more than women on the average. This is evident in the informal UA of PHC, where men are paid higher than women even when they are doing the same casual daily labour on the farms.

Chen & Ravallion (2010) argued that some of these differences can be explained with the fact that men tend to embody more human capital due to educational discrimination against women in certain countries. Jimu (2011) further argued that it can also be explained with the fact that men tend to have better tools to trade, operate from better work sites/space and greater to productive assets and financial capitals. Olajoke, Aina, & Ogini (2013) concluded that among street vendors in most developing countries, men are likely to sell non-perishable goods while the reverse is the case for the women. In addition, men are likely to sell from push–carts and bicycles while women are likely to sell from basket or simply on clothes spread on the ground.

3.5 The Informal Economy in Nigeria

Nigeria is the most populous country in Africa. It has a population of about 170 million and land area of close to 1 million square kilometres, and (National Population Commission (NPC) Nigeria and Macro, 2009). Estimates at the beginning of the 21st century propose that 43.5% of the population will be living in urban areas, up from 39% in 1985, and was projected to 50% by the year 2010, and 65% by 2020 (Nigeria Beareu of Statistics, 2012). It has an urban population growth of about 5.5% annually, roughly twice the national population growth rate which is put at 2.9%. Greater Lagos, the former national capital, has grown from 1.4 million in 1963 to 3.5 million in 1975; it is currently about 15 million, and is projected to be 24 million in 2020 while Port Harcourt City is expected to grow to about 13 million within the same period (National Bureau of Statistics Nigeria, 2008).

Chukuezi (2010) and Schneider (2002) argued that true information on the size and makeup in the informal economy of Nigeria is hard to obtain, but it is estimated that the sector has between 45% and 60% of the urban labour population, up from about 25% in the mid-1960s. Okosun et al., (2010) argued that life expectancy at birth is about 52 years, infant mortality rate is as high as 19.1 per 1000, and the per capita income is put at US $274. Onwe (2013) further argued that the development of the
informal economy in Nigeria follows strictly the general model of urban development in the country. Each stage in the development of Nigeria's cities and economy comes with its own vibrancy in informal sector development. Izeogu & Salau (1985) said numbers of Nigerian cities pre-date British colonial rule; as centres of traditional political and religious authority (Zaria, Benin, Sokoto, Arochukwu, Ile Ife). Places that stood as centres of internal and international trade across the Sahara and the Atlantic (Kano, Lagos, Calabar, PHC). Then as military fortifications which attract large numbers of farmers and craftsmen for defence and related purposes (Ibadan, Abeokuta) and centre of oil and gas (Port Harcourt).

These native towns, with large indigenous populations, subsequently had European reservations and migrant quarters grafted onto them during colonial era. They have retained these traditional characteristics (with traditional compound houses, customary attitudes and practices regarding food handling, waste disposal, and personal hygiene, urban farming and livestock keeping (Okosun et al., 2010).

3.6 The Informal Economy in Port Harcourt City

Having considered the nature of the urban informal economy at a national level, this section moves to consider the informal economy in PHC, relating it to UA and how it is practiced in PHC. Chukuezi (2010) said that in PHC the informal economy plays a critical role in boosting the city’s economy. It comprises of a range of activities such as the shoeshine boys, woodworkers, food sellers (Buka or mama-put)\(^{12}\), roadside mechanics, spare parts dealers, urban agriculture workers, and hawker in the traffic, informal teachers and taxi drivers. Guha-khasnobis et al., (2006) argued that these groups of people are not regarded as part of the economy because they lack recorded numerical data and thus, they are regarded as part of the unproductive tertiary sector. They are those that pay taxes in the form of levies to the various LGA accredited agents but are still tagged as those practicing against city’s planning laws.

When trying to identify the people that fall within this group of informal economy workers in PHC, this research considered what researchers have done on this topic,  

\(^{12}\) These are local restaurants usually located along the streets and in different locations where informal workers are working. Some of the operators carry the cooked foods in coolers and wheelbarrows then push them from one construction site to another. Others simply build a makeshift kiosk along the roads or anywhere they are they could erect them without much harassment.
and family/household mode of production model was used. According to Ravellion & Lipton, (2005), the family/household-based mode of production as a feature of informality, helps when issues of grouping those that fall within this category are considered. Thus, linking urban agriculture to the informal economy is a very important example. This is because experience from virtually all the cities where UA is practiced shows that it is mainly done as a family or household business. Poor urban households in PHC that engage with UA make use of all available informal relations, institutions and networks to achieve food sufficiency, informal employment opportunities and tend towards the reduction of poverty.

Owusu (2007) argued that urban agriculture as a livelihood strategy is considered as part of the informal economy because it met all the criteria above. Kar & Marjit (2009) said nevertheless, it is intensively connected to the formal economy through marketing relations, stating that urban farmers depend on multinationals (formal firms) to buy seeds, fertilizers, pesticides and tools, and these firms in turn benefit from the urban farmers through purchasing of their products as raw materials for their production factories. Although these relationships continue, there are still vulnerabilities associated with informality in Nigeria. Hamilton et al., (2014) said the vulnerabilities associated with informality in the cities of Nigeria includes; lack of access to urban livelihood dependent natural resources, weak networks and natural phenomena (draught, flood, sickness, theft, civil disturbance and relocation).

3.7 The Informal Economy and Commodification of Urban Agriculture

The study of economic informality in Nigeria and Africa has posed the question of “why contextualise the informal and formal economy separately” since there is both informality in the formal and formality in the informal. Understanding how both economies intertwine in countries of the global south and Port Harcourt city Nigeria will help shape the arguments presented in this study. According to Guha-khasnobis et al., (2006) in development discourse, thinking of the dichotomy between the formal-informal, someone may expect to see a clear definition of the concepts regularly applied when they are mentioned across theory, policies and empirical studies, but such things are not found. They argued that it is better to think formal and informal as images that summon a mental picture of whatever the user had in mind at that given
time. Also, Lipton (1984) said the informal economy had been discredited based on three deficiencies; misplaced dualism, misplaced isolation, and confusion. He further said that because in practice, there is not a clear cut difference between formal and informal that instead what is obtainable is a continuum, he refers to this as misplaced dualism.

On misplaced isolation, Ravellion & Lipton (2005) argued that the neglect of the fact that the relationships of the informal economy to the rest of the economies are never investigated. They further said on the confusion that the actual characteristics of the informal economy are not spelled out, nor relatively the entities that will fall into this sector of the economy. However, Harriss (1978) said it is for the initiators to spot the informal economy, and that they know it whenever they see it. Lipton (1984) said only three characteristics are used to define the informal economy in standard sources; (1) substantial overlap between the providers of labour and the providers of capital in each enterprise; (2) prevalence of a perfect or near-perfect competition (3) informal economy consists mostly of unorganised, unincorporated enterprises. Chen (2006) and Godfrey (2011) argued that the definition above means that legal restrictions on employment and acquisition of non-labour inputs do not apply to this economy. However, researchers that followed this topic in recent times show the tendency to use many different characterisations while explaining the continuum.

While discussing the formal and informal economies, a series of debates has evolved in recent years. For example, Christensen (2006) argued that the formal and informal economies are competing with perspective rather than a single dichotomy. On his part, Ostrom (2005) argued that the discussion on the formal and informal economy had been enshrined in the literature surrounding the organisation of common property regimes in the past two decades. Building on the works of De Soto, Agrawal, Arun and Ostrom (2001 and Nyamu-Musembi (2007) argued that this becomes imperative as the push in some policy circles is geared towards extending property rights to the group of individuals who do not currently enjoy such rights. Therefore, the formal and informal economy interactions in cities of the global south to negotiate for access to those engaging with informality and are deprived of such.
One of such access is in the production phase of the UA which propel this research and point out several areas across a long history and complex set of issues. This is because analysis of the value chains of UA cuts across the different phases of urban agriculture. I am focusing on the production phase of UA in PHC. Urban farming in PHC came hand in hand with colonialism, which restructured farming practices, methods of production and local perceptions of backyard gardens and fish farming. Lord Frederick Lugard, governor of both the Northern and Southern Nigeria Protectorate, founded and named the city Port Harcourt in 1912 (Eke-okoro O.N and Njoku D.N., 2012 and Igoni et al., 2007). PHC’s sea port was used as a transport point to export coal from the eastern region into Europe. In old PHC, houses that these colonial rulers lived in have spaces for backyard gardens, which they used to plant vegetables, keep birds and fish in cages and surface tanks. The model they came with is what new developers in the Nigerian urban designs are leaning towards presently (Ajanlekoko, 2001).

Agwu & Emeti (2014) argued that the presence of Europeans in PHC, ultimately gave rise to change in thinking, changes from rural or village-based production to urban farming (including the profound impact of religion, Christianity). This period encouraged urban households to start planting in the cities disregarding the notion that cities are not meant for farming (Brown-Luthango, 2011). These colonial apartments are kept in old PHC till today and tourists are welcomed to see how those ancient houses led to the modern day of real estate development in Port Harcourt City. The continuity of practice, concerning urban farming which is part of the informal economy, meant such new farming methods and forms could be quickly developed (Balmford, Green and Phalan, 2012). In the pre-colonial world, urban farming did not occupy the inner cities, distinguishable from other peripheral parts; although the quality of farming was high, aside from vegetables, there was little to distinguish rural agricultural styles from those urban farmers.

13 There were no other concepts of farming or agriculture to measure the practices then against in cities such as Port Harcourt. When the Europeans started backyard gardens in their quarters for vegetable farming, it was viewed as a new innovation.
However, the introduction of structural adjustment programmes and an increase in rural-urban migration in cities of Nigeria increases the subsistence and commercial aspect of UA (Gardner et al., 2014). Urban agriculture that started as a hunger intervention strategy among urban poor households has now grown into an enterprise for urban agriculture workers (Frayne, McCordic and Shilomboleni, 2014). In PHC, respondents keep referring to UA as a business, and this shows how UA has evolved over the years from a livelihood strategy for the urban poor that were hovering between survival and hunger to entrepreneurs (Steward, 2007). Therefore, the commercialisation of urban farming inevitably gave rise to growing competition between ‘traditional collaborative systems of farming’ UA just starting households’ initiatives modelling against diversified households to achieve the relative success they have achieved in the course of their practices.

Urban farmers in the global south mostly practice UA informally, making use of low inputs and high level of indigenous knowledge, which is evident in the way they calculate seasonality and planting styles. They have a strong indigenous knowledge of cropping/farming styles, and they practice mix cropping to make maximum use of the land and plants crops that help each other closer. Although this remains the case for almost all the urban farmers with mix-cropping demands, limiting hunger for different farms plots but the desire for better tenure (McLees, 2011). Studies of Nigerian states identified Rivers state as a traditional farming and fishing state blessed by the abundant natural resources (land, river, crude oil) and thus farming has become part of its citizen (Wokekoro, 2016). Though UA is relatively new in the development agenda, looking at it from the three phases of development in the global south, it shows that UA has existed in cities like PHC for a long time.

Accordingly, UA produces become a commodity once it moves into a system of exchange (McClintock, 2010). Some other researchers in the commodification theory say the process of commodification occurs much earlier than this and is linked to the producer’s intention (Keulartz, 2013 and Robertson, 2006). In UA of PHC, the farmers

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14 A system where one farmer worked with and emulated another, around established urban agriculture workers.

15 Urban farmers that have a secured plot of land uses the practice of mix-cropping to make good use of such land and desiring more plots of land that are not secured is not usually their priority.
that come into urban farming have already thought of their target markets\textsuperscript{16} and thereby aligning with Keulartz (2013) and Robertson (2006) position on commodification. They are seen working collectively with a clear goal when they plant something that is to be sold, and its commodity status is therefore unambiguous at all stages in the farming process.

Commodification which is defined, as the transformation of goods, services, ideas, and people into commodities, or objects of trade may also have an ambiguous impact on the urban agriculture workers (Keulartz, 2013). While commodification may enhance more production of UA produce into the urban market through the use of GMO and chemicals, the traditional urban farmers remain rigid to their traditional farming styles. The more traditional urban farmers continue to supply their produce termed organic (free of chemical) to their known customers without competing with the more commercially driven urban farmers. To the more commercially driven urban agriculture workers, the opportunity to harvest more improves their returns on their labour enabling them to scale-up. They do this by tapping into the various informal networks (churches, mosques, market women, age grades and cultural groups) available to them and knowing what the markets need at a particular time (Chukuezi, 2010).

The food market analysis is another focus that might be of help in characterising the urban production system. It is the analysis of the processes (formal and informal) involved in and adequately responding to the nutritional need of the population (Agarwal, 2001 and Haysom, 2015). This process includes; growing, harvesting, processing, packaging, transporting, marketing, consumption and recycling food, and also include in the inputs needed and outputs generated at each step (Fonchingong, 1999 and Mougeot, 2000). Accordingly, Moustier & Danso (2006) argued that in an urban setting, the food market system is influenced by social, economic and environment of such urban centre. Ives & Kendal (2013) further argued that the production, processing, and distribution of food produced around this urban centre can be analysed at the household, community and city level. Pendleton et al., (2014) added that the food from other channels (rural and imports) and their linkages, as well

\textsuperscript{16} Who they want to sell to and the prospect of making profit from their choice of crops and animals.
as the contribution to the health and nutrition of the city, its economy, and environment, cannot be underestimated. Eapen (2001) therefore, suggested that UA can focus on strengthening this urban food market system while complementing other components of the urban food systems.

In summary, there is a need to be able to get beyond the dualisms of conventional thinking on the informal economy. Understanding the complexities, led me into building a framework that accounts for the diversity of poor urban households’ economic activities and urban agriculture in the context of informality. It is this framework I am naming the “Social Relations of Urban Agriculture” that I turn to next.

3.8 Part 2. Social Networks of Informality

The aim of this section is to present a social network approach to urban informal economies. This is the first concept that makes up the conceptual framework of the thesis. This approach recognises that there is considerable complexity in the way in which people configure their economic activities beyond a relatively static categorisation of formal-informal.

Even though this approach was initially developed by Grabher and Stark (1997) in relation to explaining the dynamics of eastern European countries from socialism to capitalism, this approach has already been adapted to a Nigerian context by Kate Meagher. While Meagher developed the approach to deal with an informal industrial shoe manufacturing cluster in Aba, I further elaborate it here to help explore the dynamics of urban agriculture in Port Harcourt City. This enabled this research to focus more on social network in the analysis of informal relations, institutions and networks which the activities of poor urban households engaging with informality are embedded.

Meagher (2005) argued that there has been a marked tendency in recent scholarship to treat the irregularities of pervasive informality as a peculiar African problem, born of a political and cultural environment hostile to the existence of the state and formal economic institutions. Corazzini, Pavesi, Petrovich, & Stanca (2012) argued that the division into formal and informal spheres is thus not a useful distinctive criterion in Africa, since informal practices are also performed in the formal economy. They further
noted that the informal economy operates with a well-established hierarchy and is fully integrated into social life. In a broader sense, Recio, Mateo-Babiano, & Roitman (2017) argued that informality is construed as part of indigenous political and economic culture which involves the contestation and subversion of formal structures as an avenue for power and wealth. In African contexts, it has come to be viewed as an embedded cultural phenomenon in an environment in which local institutions have never ceded authority to the legality of the state (Meagher, 2005).

Focusing on the role of embedded social institutions and their restructuring amid the competitive pressures of rapid liberalisation, Meagher (2005) examines the town of Aba in south-eastern Nigeria. This is an area renowned for the density of its informal economic networks and for the rapid development of small-scale manufacturing under Nigeria’s structural adjustment programme. Here, she considers the extent to which social networks in Aba constitute ‘social capital’ capable of promoting economic development in the context of ongoing liberalisation, ‘social liabilities’ that undermine accumulation through a social logic of redistribution and parochialism, or ‘political capital’ through which popular forces are incorporated into the ‘shadow structures’ of predatory states. Her framework uses concepts of “Legacies” to focus on institutional features, “Linkages” to highlight the way in which social networks are affected by economic and political changes and “Localities” to dwell on how organisational capacities of networks are shaped by wider institutional fabrics which housed them. She develops the results from her analysis to call for greater attention to the role of rapid liberalisation and state neglect in explaining the developmental failures of African informal enterprise networks.

Acknowledging issues of rapid liberalisation and state neglect, my adoption, and subsequent elaboration, of her framework is intended to capitalise on the benefits it offers for grasping the intricacies that are hidden by the use of the comparatively blunter concept of ‘urban informality’. It is these intricacies that are especially important to understand in thinking about the interaction of urban agriculture and ‘urban informality’. I therefore draw on the three concepts of ‘legacies’, ‘linkages’, and ‘localities’ as conceived and developed in the Nigerian context by Meagher. However, I add a concept of ‘land’ to Meagher’s framework to account for a specificity of urban
agriculture: land – its location and quality being a fundamental feature of the type of urban agriculture I am exploring.

In the framework that I am going to explain below, legacies will be interpreted not simply as residues of the past but also as resources for the future. Linkages will be examined through analytic lenses that highlight the presence or closeness of a particular connection. Localities will be explored not for equality and consistency within certain sites, but for the multiplicity and uncertainty of meanings which are simultaneously present in them. Finally, land as a space is critical to any economic activity and it takes particular social forms in relation to urban agriculture through the qualities, aspects and relation to the built environment as well as access and tenure.

**Legacies**

A focus on legacies captures those social relations that act as a brake on realising social change. In other words, legacies tells us about the obstructing of the process of transformation, stating that it is difficult to realise the future because overcoming the past is more difficult. A good example of this is the legacies of birth-right which exert strong control on the access and ownership to natural resources within families, and along gender lines.

Meagher (2005) argued that the notion of legacies in social network analysis focuses attention on institutional practices embedded in networks, specific practices and forms of social organisations. In other contexts, concepts such as ‘path-dependency’ try to convey similar forms of institutional analysis. Such concepts highlight those phenomena that are deeply embedded in the institutions of societies and, while they might have made sense in other conjunctures, now serve to condition social life in how it is configured.

In this research, the respondents cut across the various institutions that form the community which is discussed fully in chapter five. From this perspective, specific institutional content becomes more important than broad cultural traits, so in UA of

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17 Depending on the gender of a member of a family (male or female), the distribution and access to assets (land) varies.
PHC where someone comes from is not a determinant for good practice. Specific realities of occupational history and class as well as ethnic origins are known to shape the embedded values and practices of a given network, with the results that very different types of network may develop within the same cultural context. No matter where a given network developed from (positive or negative groups), the bottom line is the desire of such network to develop into what will bring about a profitable future for actors.

In practical terms, examples of what legacies highlight could be how household members are conditioned to build certain networks from the single-family network they were born into as their engagement with the community grows. Different networks sprout from the churches, mosques, markets, farms, gangs and other informal social organisations, which they associate with. Migrants in the informal economies gravitate to certain occupations through the cultural contexts in which they operate. Thus, legacies can be interpreted not simply as residues of the past, but also as a means of resources mobilisation for the future in this framework.

**Linkages**

In highlighting linkages, I mean to examine how actors recombine resources by reorganising the networks that link individuals and organisations within and across localities and economic spheres. In this sense, Meagher demonstrates how such examination can help to analyse how social networks are affected by economic and political changes and what actors do to shape and tailor these resources effectively. The notion of linkages goes back to Grabher and Stark (1997) identifying that actors do not simply restructure relationships and networks at their own will. Instead, such restructurings are related to changing circumstances rather than merely following the dominant pathway built into linkages. This may involve religious conversation, sourcing apprentices from a non-related customer and joining an ethnically-mixed social group summed up to what is called ‘branching points’\(^{18}\) by (Scott, 2012). The approach of linkages in the social network analysis start not with the personal attributes of actors but with the networks of interaction that link actors (Emirbayer and Goodwin, 1994). Linkages which is examined through analytic lenses that highlight

\(^{18}\) A rare situation, where different networks sprout within networks and support actors to achieve their aims.
the presence or closeness of a particular connection then helps this research to analyse these informal relations, institutions and networks embedding their activities.

Grabher and Stark (1997) argued that researches within this more robust relational analysis is now demonstrating what Granovetter (1973) called ‘weak ties’. On his part, Scott (2011) argued that in times of change, networks may be unable to develop new ties or linkages or even to maintain old ones, owing to lack of economic or social assets leading to a situation of collapse of the existing networks. Kolluri & Demkowicz (2011) further argued that while there is a persistent tendency to theorise the restructuring of networks in terms of changing patterns of strong and weak ties, more incisive approaches should analyse network change in terms of social and institutional content of the linkages. Aggarwal, Savage, & Anderson (2000) said the understanding of network has moved beyond vague notion of strong and weak ties to a consideration of how the dramatic changes to such network can create new processes of social exclusion and class formation. Linkages therefore open the same opportunities of blurring of boundaries that leads to a recombination of asset and a decomposition of the large institutions also bear a social cost which erodes accountability among actors.

**Localities**

The notion of localities provides a means to highlight how the organisational capacities of networks are shaped by the surrounding institutional fabrics in which they are housed. This is an opportunity to acknowledge the specificities of place Meagher (2005). The acknowledgement comes from a long line of research. For example, Gertler (1995) argued that traits and altitudes which are parts of culture are conditioned by social institutions and regimes that they are embedded in and Grabher and Stark (1997) said the kind of institution that occurs in a place is shaped by its surrounding. Thus, the notion of localities is bringing into focus localities as sites for economic action and provides a way to conceptualise how actors recombine local knowledge, culture and networks to give shape to the organisational forms of flexible specialisation. Meagher (2005) argued that successful economic networks are not defined by their autonomy from the state but are critically shaped by the nature of their relationship with the state at the local and national level. Localities as a concept then,
does not explore equality and consistency within certain sites, but the multiplicity and uncertainty of meanings which are simultaneously present in those sites.

Land

The final element of ‘land’ is one that I add to Meagher’s framework that has been presented so far. I do this because while the element of ‘localities’ draws attention to the specificities of the local, it is not conceived to incorporate the distinctive issues around land. Since land — in its broadest sense — is such a key factor in urban agriculture, I add an element of land to the framework. Land is, of course, a fundamental input to urban agriculture. It offers space, to live and to engage in production. It offers a resource in terms of nutrients for growing plants, vegetables and fruit or feeding animals. It offers a sink for waste. It is also highly commodified and representative of social status. In line with these last two points, and in keeping with the focus on social relations of legacies, linkages, and localities, what I am most interested in is land as a social relation.

There are three common economic schools of thought about urban land. Each one privileges different issues that are useful in conceptualising land as an element in my framework. I present these three approaches in order to highlight the social relations they highlight. The first is a neoclassical economic understanding. A neoclassical view treats urban land as a commodity which is governed by the microeconomic law of demand and supply (Yapa, 1996). In this view, the supply of land is a function of cost of accessibility while its demand is prompted by the feasibility of putting it to use. It introduces the cost of producing urban land and does away with the dilemma of the gift of nature and becomes the basis of competition among the users seeking to settle on land. The major consequence of this formulation is that urban land loses its special status as it renders the supply of land relatively elastic and its utility viable. Summarily, land is turned into commodity conforming to the assumption of homogeneity and substitutability. This is how cotemporally neo-classicists make land markets subservient to competition between utility and cost. However, in terms of social relations it enables me to focus on the competition between land uses for urban land and the relations that are established between buyers and sellers of land.
The institutionalists look upon urban land as the product of a series of public and private decisions. Qadeer (1981) argued that it is an economic good embedded in social and political institutions and, thus, inseparable from them even conceptually. Institutionalists give an equal emphasis to organisations and rules through which economic behaviour is mediated. Unlike neo-classicists, they assume that nonconcrete laws of demand and supply are only one of the elements of economic behaviour. Actions through which these laws find expression affect their outcome to such a degree that those laws must be treated as variables in economic analysis. In simple terms, it means that economic analysis should not be limited to the nonconcrete forces of demand and supply, but it should embrace the socio-political settings which prompt and enact economic decisions. Location is also an important attribute of urban land for institutionalists, but they ascribe it to a multitude of factors including accessibility, but not limited to it. The locational potential of land parcels according to Baba, Yusoff and Elegba (2015) arises from sociological preferences, public regulations and, most of all, by neighbourhood externalities. In this view, we gain the possibility of understanding the relations established around land tenure and property rights and the basis upon which these are secured.

The final view is provided through a Marxian analysis based on the distinction between ‘use value’ and ‘exchange value’ of commodities to flush out attributes of urban land. In this view, land, as a commodity, takes on different characteristics depending on which of the two values is dominant in a particular situation. This also means that their contradiction makes land a paradoxical object. Thus, Olanrewaju et al., (2009) argued that the capacity of land to satisfy needs and deliver use value depends as much on its essential qualities as upon the type of user. The Marxian view of the nature of urban land, refines and extends the institutionalists’ logic. It assigns ‘property’ the decisive position engendering monopoly in land markets. Locational differentiation may make land a heterogeneous commodity, but individual ownership exploits these unique features through monopolistic practices. Similarly, by pointing out that users have widely varying demands on land, it is noted that location is only one of a multitude of contending influences in land market. This perspective offers insights into the power relations that structure social relations around land access, use and holding.
The relational aspects of land relate to property rights to land and how, and on what basis, actors can access and use land. This is based on the recognition that accessing, using and/or holding land is fundamentally an agreement between people rather than an essentialised property right. Thinking of land in this way therefore privileges the social relations that configure the accessing, use and holding of urban land for agricultural purposes. It is worth recalling how the element of land intersects with both urban agriculture (as a key feature) and with urban poverty (as a key asset).

**Figure 6: Showing Planning Hierarchy in Nigeria**

![Planning Hierarchy Diagram]


### 3.9 Part 3. Working with the Determinants of Livelihood Diversification

This section turns to the sustainable livelihoods approach (Scoones, 1998; DFID, 1999) to understanding urban poverty. It does so because it is influential in how urban poverty is conceptualised and offers many insights into the challenges faced by poor households and the issues that need to be addressed by policy makers. As an
approach, it offers policy makers invested in reducing poverty, an opportunity to conceive of the sustainability of dignified, non-poor livelihoods. Famously, Scoones (1998) said a livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets without undermining the natural resource base. Within this approach, a key way of securing sustainability is to diversify economic activities to accumulate assets and enhance capabilities. However, in diversifying there are a number of issues to consider. These issues both stimulate or provoke diversifying activities and/or condition the way activities are diversified.

Thus, I turn to the approach because of what it offers in terms of what drives households to engage in different and/or multiple economic activities. In other words, what I am interested in this overall approach is what is loosely termed the ‘determinants of livelihood diversification’. These are factors, causes or elements that households must account for when deciding to engage in economic activities. In this sense, I am using them as contextual features of urban (informal) economic life to point to issues that either set social relations in train or which condition social relations.

What the sustainable livelihoods approach’s focus on the determinants of diversification does is acknowledge that choices, about which economic activities to invest in, do not occur in a vacuum. The determinants have been grouped into five categories which are: seasonality, risk management strategies, labour markets, credit market failures and coping/adaptive behaviour (Reardon, Delgado and Matlon, 1992; Ellis, 1998; Adi, 2007). I discuss each in turn in order to elaborate how these determinants, when combined with the social networks of informality, inform my conceptual framework.

**Seasonality**

Seasonality can play a key role in the sustainability of poor livelihoods. The recognition of the importance of seasonality is a throwback to the rural livelihood emphasis of much work within a sustainable livelihood approach. Nevertheless, it remains important in urban contexts and particularly so for economic activities, such as urban agriculture, that are seasonally driven.
Alderman & Sahn (1989) argued that in economic terms, seasonality relates to the returns on labour time (income that can be earned per day or per week worked and it varies during the year in both on-farm and off-farm labour markets). Ravellion and Lipton (2005) argued that seasonality produces income irregularity and thus responses to seasonality seek to smooth income-earning opportunities. In their work, Ellis (2000) and Agrawal and Perrin (2009) said seasonality is an inherent feature of poor livelihoods. Seasonality can cause changes in occupation (production, processing or marketing/distributing) to occur as labour time is switched from lower to higher returns activities. Seasonality can also drive wage demands as during peak production periods, workers in urban agriculture can increase their wage demands.

To address issues caused by seasonality and in specific relation to UA, urban household engaging with UA can practice shifting cultivation or seek apprenticeships for a member of the household outside of UA. That is, seasonal migration to other farm zones might be one option, and the other is the circular or permanent migration of one or more farm members to other occupations outside the farm (Alderman and Sahn, 1989). Under circumstances of barely sufficient survival from on-farm output, a member of household can migrate to a different city to remove from the household one mouth to feed (Godfray et al., 2016). Household members that are learning a trade (apprentice) under another person become part of that household and increase the mouth to feed. Therefore, the livelihood diversification that occurs in this instance is not accompanied by the change in the income source of the household; rather the size of the household is changed to cater for its seasonal inability feed itself. Seasonality therefore has many implications for engaging in economic activities. Some of the most important that are highlighted here are the timing of urban agricultural activities, labour relations, wage demands and income-smoothing strategies.

**Risk Management Strategies**

As a determinant of which economic activity to engage in, risk strategies relate to assessments and perceptions of risk. Most researchers consider risk associated in UA production as the main motive why households in the informal economy seek livelihood diversification (Bryceson, 1996). On their part, Alderman and Sahn (1989)
stated that when definite outcomes in relation to income streams are replaced by probabilities of occurrence, the social unit diversifies its portfolio of activities. They do this in order to expect and to improve the threat to its welfare or failure in household activities (Walker and Ryan, 1984). Diverse on-farm cropping system such as mixed cropping and field fragmentation takes advantage of complementarities between crops, varieties in soil types and differences in microclimates. They ensure risk spreading with little loss in total income and manage risk associated with one for of UA so it will not spread to another and increase the vulnerability of household.

One of the critical motives of livelihood diversification for risk seasons is the achievement of an income portfolio with low fixed risk between its components, and this does not depend on if it involves a fall in income or not (Ellis, 2000b; Block and Webb, 2001). This means that factors that create risk for one income source (urban formal job insecurity) are not same as that of the other income source such as UA (Block and Webb, 2001; Ellis, 2006). Lack of educational qualification is a factor for creating formal urban job insecurity and lack of access to land causes hindrance to UA practice. Therefore, the blurring of risk and coping is vague as a guide to policy in areas such as poverty reduction or food security (Maxwell, 1997).

**Labour Market**

Seasonality and risk management strategies point to the role of labour markets in reducing recurring threats to the construction of viable livelihoods. However, one important characteristics of the labour market in livelihood diversification is the ability to offer non-farm opportunities for income generation differentiated by other considerations such as education, skills, location and most importantly gender (Ellis, 2000a). Economic consideration of labour may be overlaid and modified by such rules both within the household, family, and in the wider community and most of these rules may result in “social exclusion” of individuals and families from particular income streams (Maxwell, 1997).

In chapter 1 of this thesis, I pointed out that people migrate into PHC because of the desire to better their economic conditions through seeking for formal jobs that require educational qualifications. PHC is the petro-economy headquarters of Nigeria and as
such these migrants from the rural areas and neighbouring states comes in with the hope of securing jobs in the petroleum industries and other formal economies. Work opportunities vary according to skills (Maxwell, 1997) and most of these people come into the urban centres with little or no formal qualifications so it is difficult to get formal jobs.

Gender relations are another gap when considering determinants of livelihood diversification in the informal economy in terms of the labour market. For example, men are paid higher than women in the casual labour of UA in PHC. Under labour relations, I will show how men do both ‘male’ and ‘female’ jobs on the farms but women are limited to certain jobs based on culture and tradition. Men usually take advantage of this and charge very high for such jobs that are seen as ‘men only’ in UA of PHC. This and other cultural and traditional related matters have increased the gap between men and women while considering why urban households diversify their economic activities in the informal economy.

Though there is an existing market for informal jobs in the UA of PHC and most African cities, lack of documentation make it look non-existent (Davies and Hossain, 1997). This has several effects including the well-known occurrence of seasonal labour shortages in UA due to the dependence on the supply of labour by the households involved in UA. This means that households members must take UA as either a permanent job that they live on or diversify into other informal urban jobs and have UA on the side to keep the household afloat (Guyer, 1981; Marschke and Berkes, 2006). The imperfections in the land and labour markets has resulted in the persistence of institutions like share labour in UA of PHC. It seeks to help urban households in UA to address problems associated with hiring labour (Awotide, Kehinde and Agbola, 2010). Hiring labour in UA of PHC means you will feed and pay the labourer’s wages, while shared labour is a group of people that agree to work together informally. These factors bring about the existence of large number of landless urban households and

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19 Activities and population of urban households practicing urban agriculture in Nigerian cities are not documented anywhere because UA as an intervention has not been incorporated into city plans.

20 Share labour in UAP of PHC is a system where urban and peri-urban agriculturist form a working group and work on each other’s farms simultaneously. Those that do not have enough work on their farms exchange their turn for money and take the group to work on another person’s farm that can afford and need labour.
wage workers on other’s farms and this form of livelihood strategy can be the major means of their survival.

Credit Market Failures

The availability of funds to acquire inputs into UA as well as buying some basic tools has long been regarded as one of the critical constraints inhibiting rising productivity (Hoff & Stiglitz, 2001). The severity of this is noticed in the urban global south where private markets in loanable funds operate unevenly (Besley 1995 and Evans 1996). Most of the hindrance to this is based on the difficulties and cost in securing information about the potential borrowers (Cabannes, 2012), absent of collateral to put up for loans and the risk of default on loans. According to Bigsten and Shimeles (2011) in African there remain low credit facilities available for those in the informal economy. Governments and NGOs have over the years tried to overcome this barrier of credit market failure, but the success of it has managed to be intermittent and uneven (Johnson and Rogaly, 1997). This strategy has the potential to curb the excessive high interest on loans where such is available to this urban poor households (Binswanger and Rosenzweig, 1981) and therefore, avoiding placing the individual or household in a subordinate relationship with the private money-lenders.

To address the issues raised above through availability of microfinance loans to small-scale urban farmers will enhance food sufficiency, as more poor urban households will benefit from it. In PHC most of the formal credits available has so many processes before the approval can be granted and considering that majority of these farmers do not have any form of collateral it becomes more cumbersome. The availability of alternative economic activities to UA – primarily through the urban labour market is an example of a contextual factor that can influence diversification into, within, or out of UA.

Asset Strategy

Making investments in order to increase income-generating capabilities in the future is an important motive for diversification, and it is not covered by consumption security or purchase of current farm inputs by farmers (Barrett et al., 2005). Investment in order to secure or enhance future livelihood prospects is described as household’s asset
strategy, and it is a livelihood approach to poverty reduction undertaken by urban households diversifying their economic situations (Scoones, 2009). Furthermore, he identified five asset categories as those that determine assets status of household’s livelihood strategy. They are; Natural capital (land, water, trees), Physical capital (road, implement, irrigation canals), Human capital (health, education, skills), financial capital and its substitute (cash savings, jewellery, goats/cattle) and Social capital (networks, association). He concluded that most of these capitals fall outside the ability of households to control, and they therefore rely on the government to provide for them. The distinguishing aspect of asset’s strategy as a motive for diversification is its inter-temporal nature (that is diversifying to have a greater livelihood strategy in the future).

In summary, the sustainable livelihoods approach’s focus on the determinants of diversification tend to categorise social relations as a form of human capital that acts as a kind of asset that can be accumulated. Here, I have used the determinants as markers of the contextual issues that social relations need to be forged through or because of. These issues in relation to urban agriculture will be combined with the social networks of informality to generate my conceptual framework.

3.10 Conceptual Framework

Building on the analysis of literature and the two theories discussed in this chapter – sociality of informal economy and determinants of diversification – this section brings together a framework to conceive of social relations of urban agriculture. The framework consists of four elements and their interactions. I acknowledge that the four elements and their interactions that I identify are just one way of conceptualising of social relations of urban agriculture and that different conceptualisations will illuminate other processes. However, enriching our understanding of the social relations remains for research beyond this thesis and the framework created here has been developed specifically to respond to my focus. To reiterate: I focus on poor urban households operating primarily in an informal economy; where there are considerable economic constraints and locational restrictions; and where the form of urban agriculture is small-scale but beyond the production levels possible in a normal household plot. I begin by outlining the elements before describing how I have conceived of their relations.
The first element recognises that, as this thesis focuses on poor urban households, impoverishment is a specific motivator to engage in urban agriculture. Poverty – in different forms – can drive household members to engage in urban agriculture. The second element acknowledges the pervasiveness of informality in the economy and introduces the four different ways of focusing on social relations (legacies, linkages, localities and land) that can assist in analysing dynamics and processes in urban life. The third element relates to the features of urban agriculture as an economic activity and is what makes the framework specific to urban agriculture rather than some other activity. The final element relates to the determinants of livelihood diversification incorporates the contingent and contextual factors that those engaged in urban agriculture need to engage with. Together these elements allow a conceptualisation of the social relations of urban agriculture in a context of urban poverty and pervasive informality in the economy when applied to the specificities of Port Harcourt City.

The interactions between the different elements in Figure 7 should be read in a clockwise direction. In this way, poor households work through the social relations of the informal economy to engage with features of urban agriculture in the context of determinants of diversification in order to try and secure a reliable source of fresh food and earn income. This is the way I read the diagram and how it is applied to the discussions in this thesis.
In summary, the elements in this framework can work individually or collectively depending on which of it is available at any giving time for the urban household. In developing this framework and highlighting the elements, I aim to discover processes and logics quite different from notions that comes first to mind. As stated earlier, Legacies is seen not simply as residues of the past but also can serve as resources for the future. Linkages is about the structural features produced by the absence of the particular connections. Localities is examined as sites where the simultaneous presence of multiple logics (different types of social actions) yields complex ecologies of meaning. Finally, land as a space is critical to any economic activity and it takes particular social forms in relation to urban agriculture through the qualities, aspects and relation to the built environment as well as access and tenure. Since localities is
the site of an economic action and land encompasses where all these actions happen, then the notion of localities and land coordinates this sociality. The four notions in this framework work perfectly either individually or collectively provided the informal relations, institutions and networks they are embedded are active.

3.11 Conclusion

This chapter has developed a conceptual framework that draws out key features of urban agriculture and structures the methodology and analysis to follow. In three parts, I showed how any understanding of urban agriculture has to account for the pervasive informality in the urban economy. In characterising economic activities as either in/formal, I showed the inadequacy of such understandings for appreciating the complexity of the urban economic life of which urban agriculture is a part. I therefore developed Meagher's focus on the sociality of informality that highlights three groups of social relations categorised in terms of legacies, linkages, and localities. In order to account for the particularities of urban agriculture, I added (the social relations of) land as another group. Then, in order to account for the contextual factors that relate to being poor but also to the specific environment of Port Harcourt City, I showed how I use the determinants of diversification to identify issues around which people engaged in urban agriculture need to forge social relations. In other words, the determinants of livelihood diversification enable me to trace back which social relations might be important.
CHAPTER FOUR

METHODOLOGY

Introduction

In this chapter, I present the methodology of my research. The methodology is informed by the conceptual framework which I named ‘the social relations of urban agriculture’ introduced in Chapter 1 and explained in Chapter 3 (fig. 7). This chapter operationalises relevant theoretical concepts before presenting the methods used to develop the arguments both in terms of data collections and analysis. The research instruments are designed to collect both primary and secondary data such as reviews of grey literatures, structured questionnaires, detailed interviews and focus group discussions.

At the core of this research is an attempt to understand how urban households in PHC engage with UA in different ways. It does this by using a framework that situates urban agricultural practices as already being the product of social relations. The logic of inquiry of the research is mainly inductive in seeking to understand the meaning of activities, practices, processes and relations from the people engaged in urban agriculture. In so doing, I use both quantitative and qualitative methods of data generation. An initial quantitative social survey allowed me to gain a sense of the extent of urban agriculture in the Rukpokwu area and to identify respondents using households as unit for further investigation leading to in-depth interview and focus group discussions.

My research question: “How do urban households in PHC start, diversify within and move out of urban agriculture?” draws on four broad areas of existing research. First, scholarship on urban agriculture has identified a range of characteristics and elements and relations which connect it to other social processes. Second, one of the processes that urban agriculture is often associated with is urban poverty in both practice and theory. Third, urban agriculture appears thoroughly intertwined with informality in PHC, and therefore I draw on, and add to, Meagher’s approach to researching informal economies (social network). Finally, because of the vulnerabilities and uncertainties associated with the practices of urban agriculture, the
determinants of livelihood diversification is considered as a way of highlighting the key issues that people need to engage with each other in order to manage them.

The research is built around data generated during a one-off fieldwork period between July 2015 and May 2016. The use of one intensive period of field research over an eleven months’ period fitted with the difficulty placed on the research by my budget. However, it also allowed me to triangulate or validate my findings across various dimensions – through the generation and analysis of different types of data, by testing reactions at different levels of analysis. Within the city, I started the investigation in Rukpokwu (Airport Road) and then broadened out to three other farm sites of Iriebe, RUST, and Uniport.

This chapter is divided into six sub-sections. Section 4.1 discusses my inspiration in carrying out this research, narrating how the idea came about and the motives behind it. It brings together my working relations and understanding of the underlying issues with informality and urban poor households in PHC. These serve as a basis to discuss issues of my positionality in the research. Section 4.2 presents the research site and explains how I accessed the fieldwork sites, explaining the procedures and ethical considerations. The research approaches and methods used in navigating the field are also explained and why such approaches and methods are used in this research. Section 4.3 is the conceptual focus and elaborated reasons behind the research focusing on the production phase of urban agriculture.

Section 4.4 details how data were collected for this research. It explains the five phases of data collection (scoping visits, pilot study, social survey, in-depth interview and focus group discussions). The issues relating to gender in urban research was discussed here and why the research did not use it as an entry point. Section 4.5 then argues for the strength of a mix methods in urban research and highlighted the significance it added to this research. Section 4.6 gives a general reflection of the fieldwork research process and evaluated what was done and what was not done and the limitation of the entire fieldwork process. This reflection on the research process, highlighted what has been done, what were the obstacles and lessons learned from the process fieldwork that can be addressed in future research.
4.1 The Research Journey

The inspiration for this research can be traced to several events and choices in my life, which, with the advantage point of the present, invests my interest in the topic with a certain inevitability or logic. Whether this should be viewed as serendipity or simply ‘biographical illusion’, I leave it to the readers to decide. First, the choice of focus in this thesis – the activities of urban agriculture worker in PHC, interconnected closely with experience from my immediate family. Second, my experience in living in Nigeria and working with a local government planning unit, where I discovered that out of eleven poverty reduction strategies in Nigeria from the 1980s until 2019, none has explicitly focused on urban poverty or considered the linkages between UA and urban poverty reduction. Finally, my involvement as a trustee for a local Non-Governmental Organisation (NGO), Sustainable Ogoni People Initiative (SOPI) whose aim is ‘to build sustainable livelihoods using UA as a means of capability rather than charity’.

Sometime back in 1980s, as a child, I found myself running between my elementary class and another classroom where my mother was a teacher. My father and mother were both primary school teachers then, while my father was an assistant head teacher teaching higher classes, my mother was in a lower class. My mother had a new child who she took to school and my twin sister was the one looking after the new baby. Occasionally I would leave my classroom and go to my mother’s class to play with my little sister. The take home pay from the teaching profession was too meagre to cater for our household feeding and paying of bills. My mother voluntarily resigned her appointment and diversified into UA and that reduced our need to buy food and the sales from the farm helped in providing extra finance for the household also.

The implication of these events and experiences for this research are equally grouped into three and they reflect on how I was able to navigate this research during literature reviews and empirical phase. The implication of the livelihood pathway story of my mother moving from teaching into urban farming, relates to what SOPI is doing now in PHC with poor urban households. There is no food bank (charity) for the poor urban households, therefore building their capacity to fend for themselves is in accordance with the African proverb “Do not offer me fish but teach me how to fish”. As stated in point two in the previous paragraph, building a linkage between urban poverty and UA, will not only provide food, employment and sanitation for the city but will reduce
poverty which is the aim of every pro-poor interventions. Therefore, the implications of these events and experiences in my life to this research is evident in the way it shaped my approach, methodology and the choice of analytical framework used in analysing the research.

I therefore had a particular knowledge of the situation on ground in Port Harcourt City and how poor urban households struggle to meet up with the challenges of food security and other households’ demands. This strongly shaped my positionality in two ways, even though I sought to enter this research with an open mind. First, it shaped the selection of the area of Rukpokwu and my interest in a particular form of urban agriculture – that of small-scale but beyond the household engagement in production. I acknowledge that if my positionality had been different, I would not necessarily have started from Rukpokwu nor focused on the production phase of urban agriculture. Thus, the thesis cannot make claims for all forms of urban agriculture in Port Harcourt nor about different phases in the value chain. Such investigations will need to be taken up in future research.

The second way in which my positionality affected this research relates to my policy advocacy role in relation to promoting urban agriculture as a poverty reduction strategy in PHC. I am aware that academic work that is perceived as rigorous (in this case as including both quantitative and qualitative data) by policy makers would have a better chance of being taken seriously. I have thus sought to include both quantitative and qualitative data in this thesis. I am also aware that policy maker’s views about urban agriculture are strongly entrenched and thus to avoid being enrolled in particular political agendas, I avoided direct engagement with policy makers. The advantage of this position is that I can claim that the outcomes of the research are not linked to any particular policy maker. However, the disadvantage is that, in not talking to policy makers, this research has been unable to incorporate their immediate views. This disadvantage was considered to be outweighed by the need to first develop a coherent view of urban agriculture in PHC before engaging in policy advocacy.

During the social survey, I was not in control of which households fall within my research and the random sampling method I used helped me to reduce such biases. Analysis of the results from the social survey was done by me and because I already
have a standard questionnaire and it did not have names on them but households’ number it further minimised any chance of bias. This led me into choosing households that will go into the in-depth interview which I did purposively but because the three focuses of my research, looking for households that fits into those categories were more important. After I have made the choice of the forty households, I began to make direct contacts with them and that led me into some of their homes and farms.

4.2 Research Site Selection

Port Harcourt City offers a useful site to examine the social relations of urban agriculture. Its geographic and climatic location means that there is a wide diversity of urban agricultural practices that are both land and water-based that can be pursued at a small scale. As the headquarters of the petroleum industry in Nigeria it attracts many, often poor, people to the city in search of work. It is thus expanding spatially fast and attempts to cater to this growth have resulted in plans for a new city called Greater Port Harcourt (GPH). The new city offers informal work opportunities because of the construction activities associated with new infrastructural developments. It also has a very active land market and competition amongst land uses for different locations. My entry site of Rukpokwu is situated between the old city centre and GPH and is not developing according to any formal plans. Its location between the old (Port Harcourt) and new locus of development (Greater Port Harcourt) with proximity to the city’s airport means that the value of the land is increasing and also raising broader questions about the continuation of current lifestyles and opportunities. Thus, amongst considerable opportunities offered by the petroleum industry there is intensive poverty and pervasive informality and an active land market that is fast changing the allocation of land uses amongst locations. These are all key issues in many African cities, but they are also specifically important to the form of urban agriculture that I wish to explore in the thesis.

While the Rukpokwu area is the residential location of all my participants as at when the social survey was conducted (2015), some of their agricultural activities are located in four ‘farms’ at various locations in the city. These are the RUST, Iriebe, Uniport and Airport road sites (fig. 8). The location of Rukpokwu and Borokiri is shown clearly and they are 30.7KM apart by the calculations of google map (figure 9). Borokiri is in the
old Port Harcourt City, sitting on the Atlantic Ocean and serves as a main business route by sea to other parts of the state, country and world. Rukpokwu is in the northern part of Port Harcourt City, situated between the old and newly proposed Greater Port Harcourt. Both areas of PHC are connected by roads, the airport road changes its name to Ikwerre road at Rukpokwu and continues to mile1 flyover. It continues from there to Borokiri as Azikiwe road and crosses the other major roads (East-West road and Aba-PHC express road) at Rumuokoro and Mile1 respectively. Therefore, the airport road (Rukpokwu), Ikwerre road (RUST), East West road (Uniport) and Aba-PHC road (Iriebe) connects the farm sites used in this research (figure 10).

One of the main reasons to choose these farms is to have a broader view of urban agriculture in Port Harcourt city. I have argued that I am using the term urban agriculture to represent agricultural practice in the inner city and those on the edges of the city. Therefore, the concept of urban and peri-urban (inner and periphery) are considered in the choices of location of farms used in this research. For example, the RUST farm is in the heart of the city (urban), Iriebe is on the outskirt of the city (peri-urban) while Uniport and Rukpokwu farms sits between urban and peri-urban. These farm locations represent not only my broader concept of defining urban agriculture in a holistic way (urban and peri-urban) but it helps tell the story of how urban households engage with determinants of diversification. From Rukpokwu where I recruited my samples during the social survey, I was led into these farms and after analysing my data I decided for these four farms because majority of my respondents uses them. The choice of these four farms were purposively chosen by me after my social survey data analysis and I had an idea of how many farmers were in each of the farm sites.
4.2 Conceptual Focus

As discussed in Chapter two, UA encompasses a wide range of activities that include the production, processing, marketing and distribution, consumption and recycling of produce. In order to narrow the focus for this research, I examined a range of different households’ engagement with the production phase of UA. The production phase of UA is important because it has specific implications for accessing the means of production such as land, water and agricultural inputs. This social network\textsuperscript{21} of urban agriculture includes:

\begin{itemize}
  \item Land
  \item Farm implements
  \item Labour relations
  \item Water for irrigation
  \item Manure
  \item Financing
\end{itemize}

These are components needed for the production of urban agriculture to take place and they include land, farm implements, labour relations, water for irrigation, manure and financing. They are what this research called the social network of urban agriculture in PHC. They work together to make the production phase of UA begin and are driven by the informal networks, interactions and relations (fig 8).

\textsuperscript{21}These are components needed for the production of urban agriculture to take place and they include land, farm implements, labour relations, water for irrigation, manure and financing. They are what this research called the social network of urban agriculture in PHC. They work together to make the production phase of UA begin and are driven by the informal networks, interactions and relations (fig 8).
agriculture, help to organise the practices of UA, giving the practitioners choices in the informal economy of Port Harcourt City.

Figure 9: Map showing the distance between Rukpokwu and Borokiri in Port Harcourt City.

The production phase of UA in PHC is important to this research because issues of sustainability are highly considered by these UA workers. The issue of sustainability is important here because most UA in PHC is a low input activity and concerns for its future in the face of globalisation is key. The UA workers replant their seeds, use compost manure to improve the soil quality and use local implements in their farming activities. Focusing on the production phase of the UA chain gives me ample opportunities to understand why poor urban households in Port Harcourt City engage with UA. This phase although intertwined with other phases in the value chain, has a direct bearing on these households that are involved in the day to day running of their households. They chose to go into production because they inherited the skills of producing their foods and this helps to reduce the cost of running the households.

This choice allowed me to explore issues related to the production phase of UA such as land access/tenure, diversification, inputs, preservation/storage, proximity to market (features of UA) in chapter two. Implicitly, some of the processes within the
production phase required participants in my research to raise issues related to other phases. A key concern of those engaged in production is how the surplus produce will be distributed and marketed. However, these other phases were not the immediate focus of this research. As a result, the research is unable to focus on issues in other phases that may also impact on decision-making and practices within the production phase and thus represents a partial view.

4.3 Phases of fieldwork

I divided my research into phases consisting of a scoping visit, pilot study, social survey, in-depth interviews and focus groups. As I present these phases, I will document how participants were recruited for this research and how data were generated.

Scoping Visit

The first phase was a two-weeks’ exploratory scoping visit in July 2015 that helped to map the sampling site (Elipokwuodu Road; Fig. 10) and to confirm the relevant ‘population’ for the structured social survey. I used these two weeks of scoping visit to estimate the number of urban households in the area to determine the appropriate sampling size and it helped to provide information for detailed investigation. Discussions with key gatekeepers (youth president and CDC chairman) soon after my arrival, confirmed my earlier view which indicated that I had seriously reviewed literature about Rukpokwu. The number of households in the area (Elipokwuodu Road) was in line with what I have estimated from Google Earth, making my plan for a representative social survey of 253 households in an urban area of about 1000 a reality. This was intended to generate a sufficiently representative sample population, reflective of trends in the broader population of the area.

It was during the scoping visit that I met with some individuals whose participation in the research process (in terms of logistics and access to other farm sites) proved to be invaluable. Madam Z (pseudonym), an urban farmer from Ogoni Rivers State but living in Rukpokwu (member of the RUST vegetable farmers’ union), was one of them. I came across her during the social survey, she was kind and reliable, and fluent in English. She proved to be a participant who could assist me in reaching out to other people engaged in her group (diversifying households). I visited the Traditional Ruler
who is the gatekeeper of the community and he invited the community development committee (CDC). The youth leader of the community was also part of this grouping and the King introduced me to them and I told them about my mission. Introducing them to my research scope and why I decided to use Rukpokwu as my case study was appealing to them and they promised all the support I would need throughout my study. I spent the remaining days in the two weeks I allocated for this phase of my research in observing the area I used for the social survey.

**Pilot Study Phase**

The second phase, 30th July- 10th August 2015, was concerned with undertaking a pilot study using a structured questionnaire and a purposive style of sampling the households. Here I piloted my questionnaires with the aim of observing if there was any area in the structured questionnaire I did not cover and after sampling ten households, I got what I expected and made the adjustments\(^{22}\). I self-administered five of the questionnaires and dropped five off in the households asking of when I should come back for them and the response I got shaped my research. The five sets I dropped off were not answered correctly and two went missing while the five I administered were correctly answered and I also noticed areas that I needed to work on. One of the things I worked on was differentiating between household and family, respondents assumed everyone born by the household heads are part of the households but I clarified that with them. It is these differences between households and family as used in this research I turn to next starting with household.

This research used the definition provided by the National Bureau of Statistic of Nigeria to define household and family. Accordingly, a household is defined as one person living alone, or a group of people (not necessarily related) living together at the same address who share cooking facilities, a living room, sitting room or dining area and have the same eating pattern. A household can consist of more than one family, or no families in the case of a group of unrelated people (NBS, 2010, 2012b, 2014). The definition further states that a household is part of a family and that there are households’ members that are not related as the case of family. As explained earlier, five questionnaires were administered and three respondents included everyone born

\(^{22}\) One of the key adjustments made to my questionnaire and research was the definition of households and family.
into the household as members. This definition by NBS helped to clarify what the research means when using the word household and distinguishes it from what is meant by a ‘family’.

A family is defined as a householder and one or more other people living in a household who are related by birth, marriage or adoption (NBS, 2010, 2012b, 2014). In this case the significant point is that every member living with the household’s head must be related as stated above and are regarded as members of his or her family. It goes therefore that; a family could consist of only one household. But in the case of a household, it may not necessarily consist of members of one family. This is because, a household may comprise of a group of individuals who may not be related or one person living alone.

According to NBS study, families are classified by types. These include a married couple family depending on the presence of a spouse. The other family classes are further broken out according to gender of the household’s head. A patriarchal household without a wife; this includes a family with a male maintaining a household with no wife of his own. A matriarchal household without a husband; this includes a family with a female maintaining a household with no husband present. The implications of these arrangements are detailed in chapter five, where this research analyses the demography of the research respondents.
Figure 10: Map showing aerial view of Elikpokwodu street Rukpokwu where I recruited my participants.

Social Survey

My questionnaires for the household social survey were administered in two ways (drop off and self-administered) as stated earlier in the previous section. I decided to administer the questionnaires personally during the social survey proper to avoid the situation I noticed during the pilot study. During the pilot study, two of the five drop off were lost, two was not filled correctly, and one was filled by a third party. Though the pilot study helped in facilitating direct discussions within each household in the area I selected for the research. I acted competently with every household I sampled throughout my social survey and interviews. I administered Information sheets to the household heads and made sure they understood what my research is about and the type of data I will generate from them. Once they are comfortable with it I sought their consent by asking them to sign the consent form and proceed with my research. I sampled every fourth household in an area of about 1000 households at the end of the social survey, I sampled 253 households.

During the sampling period of the social survey, I maintained my sampling methods, sampling every fourth household. I included households out of the 253, I sampled that
have households’ size of 1 member and above. Those that do not fall within the criteria that can answer the question this research seeks to address were not recruited into the next phase. For example, households within my social survey that are formally employed where not recruited into the next phase (in-depth interview) of my research. Also, I came across households that were so wealthy in the area and do their businesses formally, such people were not also included into the next phase of the research. Some of these wealthy households are involved in the processing, marketing or consumption phase of UA but since they are not involved in the production phase, they were excluded.

The process adopted to create an appropriate sampling frame and the rationale for using a random-sampling method was set out in (section 4.4.2). While this sampling method ensures that the identities of respondents are not presumed, I also recognised possible biases related to coverage and representativeness of the sample. The quantitative element of the questionnaire mirrored the format of questions used in national household surveys in Nigeria (for instance the NHS-2000) and was designed to allow ease of data recording, comparison and analysis, and to permit some check on similarity or otherwise with the broader population. The resulting data (derived from 253 useable questionnaires, covering an area of about 1000 households (fig. 9), containing variables) was coded and inputted into Microsoft Excel in Nigeria and taken to London where I analysed the data using Microsoft Excel in detail.

An initial descriptive analysis examined frequency distributions of age, sex, plots of land owned, means of transportation, household size and cross-tabulations of these variables. I did this using households characteristics and assets with the intent to categorise urban households across many dimensions, thus enabling a review of differences between households in the four focus groups. These groups are those which were followed in-depth, the findings from which are discussed at length in Chapter Five and Six. This permitted an appreciation of the diversity of the sample and later comparison with provincial (rural/urban) data from Nigerian national household surveys. Although there can be issues with the reliability of secondary data used in development research (see the discussion in (Sumner and Tribe, 2008) the quality of NHS data (in terms of survey methodology and recording of household
assets and living conditions, rather than consumption-expenditure data) appears acceptable for this research.

The aim was to generate an ‘asset index’ as an indicator of ‘poverty’ and a ‘wealth ranking’ of urban households. I did this by looking at assets such as land and tenure, means of transportation and educational qualifications as a means of exploring poverty and deprivation and examining the similarities and differences between urban households. In the absence of reliable information on income or consumption, I recognise that ‘asset indices’ are not free of the ‘reporting biases that infiltrates household surveys, although direct observation of some ‘assets’ (related to housing quality and sanitation, for instance) was clearly possible. Arguably, also, measurement error is likely to be much smaller with assets than with food consumption, for instance. I have also contended with questions of validity (or truthfulness or inclusiveness) related to the choice of assets to be included in the ‘index’ and the meaning this might have for the subjects of the research. My respondents are individuals in urban households, most of them do not have secure land tenure and so using that to measure degree of poverty will be misleading.

The site of the social survey was based around Elipokwoudu Road or market road (fig 10). It is the longest street in Rukpokwu and covers both sides of the road, beginning from Ikwerre road. To choose my very first household, I tossed a coin to start sampling the first house on the left or the right of the street and I assigned head of the coin to the left then tail to the right. I got the head so started my sampling from the very first house on the left-hand side of the street. During the pilot study, I have redefined what I meant by households and distinguished it from family and as explained in (section 4.4.2) that was the premise I worked on. After scoping this street and known that I can have 1000 households, I started my sampling for the social survey then my final 253 households were chosen with 5% margin of error and 95% confidence level. I will then go further to explain how I chose my forty households that fit into the final four groups of my in-depth interviews and focus groups.

From 4th- 24th September 2015, the data from the social survey obtained from

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23 I relied on the information provided by the household heads to compile these assets and did not independently verify them.
individuals in these urban households were then analysed. The data were stored in Microsoft excel and the research went further to identify forty (40) households to follow in-depth based on criteria set for them. Finally, at this phase, data were analysed and compared with national household survey data obtained from the Bureau of National Statistics (BNS) in relation to household demography. Therefore, discussions with UA workers and other informal economy workers in Port Harcourt city also provided insights into diversity among urban households.

4.4 Sampling for Interviewees in Urban Household Research

Criteria for selection for the in-depth interview groups were based on answers to specific questions from the social survey. For example, responses to questions: ‘have you ever practiced urban farming, if ‘YES’, when did you start; are you still engaged with urban farming, and those that answered ‘NO’ are taken note of too. At the end of the social survey, the research had four groups to work with from the urban households that were sampled. The groups are:

- Those diversifying (doing different things in urban farming)
- Those just starting urban farming (3-12months)
- Those who have moved out
- Those that have never practiced urban farming (on-farm) but are in the informal sector.

I carefully selected ten households for each of the groups and criteria for their inclusion are spelt out here. For those just starting urban farming, I chose a farming period of three to twelve months. I did that because from the scoping visit to the pilot study and finally to the social survey, I discovered that those involved in vegetable farming harvests after three months and if their goals are not met the majority of them drop out. The goals are situations that prompted them to diversify their livelihood choices. Some of them are hunger (food security), availability of land and a starter’s pack, desire for extra finance and/or maintaining a family business. Households whose goals are not met or who lost any of their assets (land, health, migration) then moved out into other activities. Therefore, the just starting households were recruited from this category of urban households.
The criteria for inclusion of people diversifying within UA are those that have a different mix in the informal urban agriculture. From my personal knowledge, it is common for urban farmers in PHC to practice mixed cropping (where they interplant different crops on the same piece of land in the same farming season but with slight planting time intervals). For example, a cassava farm is mixed with maize but the technique backed with high level of indigenous knowledge is that you plant the cassava first and after it has germinated about a week later (depending on the season rain or dry) you proceed by planting maize. Yam farming is the most mixed in PHC, Here the yam is planted a few days later and it is inter-cropped with pumpkin, pepper, cocoyam, three-leaf yam, maize and a few months later cassava is also planted within the yam farm. Therefore, people in the diversifying category, do a series of crop planting and can also venture into poultry, fisheries and animal husbandry too.

The next is the group that have moved out of urban farming, this group is made up of people that have lost access to their assets (land) or relocated to a new environment and are yet to have access to such assets. Others still have access to land but due to health challenges or choice are not physically involved in UA anymore and would rather rent out their land to others. There are also the group of people who sold their land and pay for formal employment while some sold the land they were farming on and build flats which they rent and depend on as a means of livelihood. Here they rent their houses informally without employing any letting agent and are in charge of the terms of negotiation and receipts of payments, the tenants are expected to be bound by the informal agreements and they usually pour libation (drop some dry gin on the ground and say some incantations). To be considered worthy of this research group, respondents must have practiced urban farming and have reason(s) for why they left the ‘business’ (as UA is referred to in PHC by those engaging with it).

The final group are those that have never engaged in the production phase of urban agriculture. A disadvantage of my study only focusing on respondents from

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24 The process of getting formal employment in Nigeria goes beyond mere being qualified, submitting application and attending interviews. There are numerous feedbacks from my interviews that some households pay to get into the formal employments that are pensionable.
households that had started, diversified within, or left urban agriculture would be that it could create the impression that urban agriculture could be an economic activity that any household could take up. Thus, the purpose of having this group was to explore first, what issues affected those respondents not considering or not engaging in the production phase of urban agriculture. And second, to show that urban agriculture is not the only way in which households try to address their impoverishment. That is, that urban agriculture need not be the only, first and best option for households to address their poverty.

Recruiting households into this group was done the same way other groups were filled but in a well thought of way by the researcher. First, not everyone who has not practiced urban agriculture fits into this group and so there are factors that helped in putting the right households in the group. Any household that has not practiced urban agriculture but was working in a formal firm was not included and also if in a household, the wife or the husband are divided between the formal and informal economy in terms of their occupation, such households were not included. To be included in this ‘control group’, the household members must be in other informal economic activity aside the production phase of urban agriculture. This strict adherence to the criteria set for inclusiveness into the research helped in the rigour and viability of the data generated and the result of the analysis.

**In-depth Interview Phase**

The next phase of fieldwork, which is the in-depth interview phase started in October 2015. On the 1st October, I had my first two interviews. The first in-depth interview was from a diversifying within household, there was no preference to start with any group or household but it depends on who gave me appointment first. In an attempt to understand why urban households involved in UA in PHC diversify their livelihood choices, the experience of DH-001 is in line with the theoretical definition of livelihood diversification (Awotide, Kehinde and Agbola, 2010). The nature of the research process also made it possible through direct observation to explore diversity in the composition and economic wellbeing of households (Marschke and Berkes, 2006). These observations were reinforced through conversations with other households during interviews and focus group discussions.
My second interview was in the evening of that same date, this time it was from the group that are just starting urban farming coded JSH-001 (Just Starting Household-001). Here she drew her inspiration from a neighbour that has been in the business for a long time and the desire for self-sustenance. This phase took me from October 2015 to March 2016; I was practically doing the interviews at the farmer’s time. If any of them gave me an appointment and it was called off by any reason given by them, I respected that and re-booked the appointment for another day of their choice. This delayed and changed my fieldwork timetable but it was helpful because respondents were not talking to me out of pressure. I will go into details of my phases of fieldwork below.

As stated earlier, in this phase I purposively selected forty households that are involved in informality from my two hundred and fifty-three (253) households I sampled in the social survey. While the first to third groups were famers or ex-farmers as in the case of left urban farming group (moved-out), the last group of ‘never done urban agriculture’ were people engaged in different informal economy activities that are not engaged with on-farm production activities. I selected a street hawker, a tricycle-driver (Keke driver), a taxi driver, a spare parts dealer, a food seller (Buka or mama-put), a gateman, a horticulturist, a fish seller, foodstuff seller and a teacher employed informally. The reason for having this different mix in this group (never farmed) is to understand some of the reasons why people in similar circumstances do not engage with urban agriculture. I believe that researching this group of people and understanding what they do and why they do it coupled with their interactions with the urban agriculture workers will contribute answer to my research question of why do urban households in PHC start, diversify within and move out of informal UA.

During phase 2 (in-depth interview), I was open to whosoever from any of the groups that were willing to grant me interview and as such on the first day, I interview one person from the diversifying household group and another from the just starting households (DH-001 and JSH-001). These interviews were done in two different locations, while DH-001 (HH-639 from social survey) preferred to be interviewed in her home in the evening after work, JSH-001(HH-013) preference was on her farm. Since these respondents were voluntarily participating in my research, giving them opportunity to choose when they are free to be interviewed made them relax and they
gave me full cooperation. This pattern continued till when I had my last interview with the DH and then book for focus group discussion that was fixed and done on the 27th January 2016 by the diversifying households.

The implication of what played out here was to my own advantage as time lost on one group was converted into time gain on the other group. I made sure that I had my timetable for appointments up to date. When there was a failed appointment from one member of a group, I checked my diary to see if there was any other appointment that was ready and it generally saved time for me. During this phase, when I have any failed appointment from any member of a group, I will drive to the nearest farm among the farms I was researching and see if I can have someone who is willing to be interviewed. Sometimes, I might not have anyone who was willing but I still stayed within the farm premises observing what is going on and how they are going on with their daily activities. In all my research period, I did not pressurise any of my respondents or put them under any type of duress and this was productive as none of my respondents withdrew from my study at any stage.

The individual respondents from the households’ in-depth interviews continued and on the 22nd and 23rd of February I completed the Just starting Household and Never Done UA household (JSH-10 and NDH-10) interviews. The Moved-Out households (DOH) were remaining two interviews and the date given to me for their appointments were 5th and 8th of March respectively. I made sure I finished all in-depth interviews before proceeding to negotiate for the focus group discussions with any of the groups above. This is because having a member of a group that has not granted me in-depth interview into the focus group discussion will add bias to my study. Such individual might be greatly influenced by what others are saying rather than what is of his/her original opinion. Therefore, I tried to eliminate such during all phases of my study with all the groups and tried my best to round up in-depth interviews before planning for focus group discussions.

A major concern in interview research is that of the nature of the relationship between interviewer and respondent(s). The ‘interviewer effect’ (Hox, De Leeuw and Kreft, 2004; Olson and Peytchev, 2007) influences how much information people are willing to divulge and how honest they are in their answers. Reflecting on my time in the
fieldwork indicated that I was able to establish a good rapport with respondents. While closely matching the attributes of interviewer and respondent may or may not be desirable (with the need to balance empathy against a necessary detachment), it is anyway difficult, if not impossible to achieve. This is part of the more general problem with research interviews that Kvale (2008) refers to as an inevitable ‘power asymmetry’ between the researcher and the subject, where the interview is ‘not an open conversation between equal partners’.

It may be partly based on a lack of ‘status congruency’ between respondent and interviewer (Lepkowski, Siu and Fisher, 2000), but it can arise without any deliberate exercise of power by the interviewer, and is part of the structural features of interview research. In my research, I sought to minimise any power asymmetry. Whenever anyone that could not speak English was encountered, I resorted to pidgin English and that made the interview flow as desired. Here I was basically asking my respondents about what they knew and as such they felt free and at no point do they show any symptom of feeling indifferent.

**Focus Group Discussions**

Following the individual interviews four focus group discussions were facilitated (one for each ‘group’), involving the 30 of urban agriculture workers households and providing a complementary source of information to the individual interviews (King, 2004 and Vaivio, 2012). These offered access to a larger body of knowledge, than individual interviews – where ‘the sum is more than an addition of individual replies’ (Davidson, 2004 and Smith, 2012). Initial factual questions relating to the organisation and operation of informal activities were followed by the opportunity for participants to develop and pursue their own arguments. The ‘agenda’ evolved as I attempted to explore, and test opinions gathered from previous in-depth interviews and those arising from the researcher’s reflection on the research process. These discussions provided important contextual material on respondents’ perceptions of livelihood opportunities (or lack of), while giving key insights into group dynamics the reflections offered by respondents gave a means of accessing their ‘voice’.

As stated earlier in this chapter, interviews and focus group discussions did not give priority to any of the groups or households but those that were readily available.
Therefore, the diversifying household (DH) focus group discussion was the first and took place at the RUST farm on the morning of January 27th, 2016. The original intention was to invite all the participants in the diversifying household in-depth interview, though when it became clear that this would have been logistically difficult, I kept to it because it was a core need of my research. Focus group interviews are convened in artificially contrived, ‘unnatural settings’ and ‘operate more successfully if they are composed of relative strangers, rather than friends’ (Cowan, 2011). The practice I adopted at RUST farm and elsewhere was pragmatic and one of exclusion, with members who were part of the in-depth interviews permitted to participate in the focus group discussions, a procedure which cotton (1999) considers legitimate.

The focus group discussions involved ten (10) participants, which proved manageable, it is a format that gave a greater sense of inclusiveness or ownership in the research process. On the surface, it also seemed to encourage spontaneity and provided a valuable insight into group dynamics and power relationships. Since it was not crowded, the process gave everyone voice to contribute to topics raised and they all felt a sense of belonging. Indeed, it was instructive to learn from the way participants discussed things, as much as from what they said. I was then able to connect what they say outside the theme of discussion to the degree of formation of informal economy workers group structure and coherence. The following description of the group discussion at RUST farm is reproduced verbatim from my field notes and gives a flavour of the process.

Since my research concentrated more on the production phase of UA chain, three of the focus groups have direct links with that (just starting, diversifying within and moved-out). While the just starting were giving their experiences in the occupation, the diversifying households were giving me their experiences within the industry. On the other hand, the moved-out households have had these experiences and were recounting their experiences to me during their time in the UA. So, I was asking the just starting and diversifying households in the presents, the questions were asked retrospectively to the diversified-out households. The theme for the diversifying and just starting and moved-out UA focus groups are;

- The role of culture and tradition in urban farming
- Urban farming and poverty links
Access to market and its role in encouraging participation in UA
Entry barriers, motivations and incentives to urban households
The role of sociality of informality in UA
The role of gender and power relations in UA
Access to inputs (land/seeds/credit)
Informal relations, institutions and networks (corporative/association)
History/cultural origin of urban farmers
The role of livelihood diversification in poverty reduction
Attitudes of government towards farmers.

The focus group discussions, which lasted between 120 and 170 minutes, were recorded simultaneously using two Dictaphones, and I translated and transcribed them into English. The next focus group discussion I had was for the ‘never done urban agriculture’ group. It was difficult initially to arrive at a compromise for date and venue of the meeting, but we finally chose a Sunday 13th March 2016 evening. This date and time were generally agreed because the majority of them do not work that day. The traffic hawker I had in this group was the last to agree but finally he did, and we had a successful meeting. He wanted an earlier time on a Sunday, stating that he has his community meeting to attend in the evening, but we compromised and brought the meeting to the early afternoon so that we can finish on time. The just starting focus group and diversified out focus group were held on the 19th and 26th of March 2016 respectively.

For the moved-out of UA focus group, the theme was basically the same as above but the questions were asked in past tense to gather information about what they experienced while practicing UA. That is followed by motivations to move on and experience in the new sector where they presently work.

Although, the 10 households selected into this group are not physically involved in the production phase of UA, they connect to UA through the other phases of its chain. Since food security and poverty reduction was prominent among analysis of their households’ in-depth interviews, understanding how their choices of livelihood activities help achieve them was key. Therefore, the dominant key points formed the basis of the themes for this group. For the never done UA, the themes are;
• Link between informality and poverty
• Entry barriers in UA
• Sociality of informality
• The role of family in accessing assets in the city
• The role of indigene/non-indigene in accessing land in PHC
• The role respondents play in household’s food security
• The role of gender relations and informality
• Informal relations, institutions and networks
• Attitude of government towards informality in PHC
• Expectations towards achieving wellbeing in PHC
• The future of informality in PHC

Research on the broader urban farmer’s ‘chain’ included a visit to the daily open-air markets (fruit garden market Kaduna street PHC, Mile3 and the Okro market Eriebe off Aba-PHC express way). These are places where produce from these farms are sent to for marketing, though there are an influx of middle women who turn up to the farms to buy and resell to other customers in the markets. Visits to these markets were done in form of exploratory visits (2 times each), here I spend time (30-120 minutes) observing what transpired between buyers and sellers, informal questions were occasionally asked from both buyers and sellers. In the fruit garden market, I discovered that most of the fruits that come into the market travel as far as from the northern city of Kano and Kaduna down to PHC, there were pockets of traders selling fruits and vegetables from PHC and they termed them “Organic”. Most traders said they cannot depend on PHC urban farmers for produce because they will not have enough supply to feed the city. Vegetables that are brought into the Mile3 and Okro markets are mainly locally planted by the urban farmers in the Iriebe and RUST farms and they are believed to be organic (not planted with fertilisers).

Selected elements from social relations of urban agriculture framework were used. With a networked view of informality, I was able to generate data on the relational examples of personal and distinctive transactions among households living in Rukpokwu area of PHC. This view is in contrast to more conventional approaches which rely on value chain analysis that tend to link networks in a more linear fashion - with an emphasis on identifying the stages (or ‘nodes’) in the ‘chain’ linking raw
material to end-product (from seed to table). It does this by exploring issues of ‘chain’ governance, with determining how value (commodification) is distributed between the different ‘nodes’. Thus, although valuable in other analytical contexts, I did not explore in detail analysis of value chains.

It has already been discussed at some length the staging and data collection issues related to the focus group discussions and possible method-specific and situational bias. The focus groups discussions conducted were recorded and stored on a computer. This offered a degree of ‘investigator triangulation and the availability of transcripts (already translated into English) and contextual field notes provided what (Seale, 1999) calls ‘low-inference descriptors’ to aid transparency. My very high familiarity with PHC and therefore the need for the usage of special English (pidgin) meant a potentially wide difference between ‘intended and received’ meaning, in terms of language, delivery and emphasis. The transcribed four focus group discussions ran to just over 13,766 words while the in-depth interviews were about 53,634 words. Although most followed a similar structure and sequencing of ‘topics’, there were also scope for what was labelled ‘Open Questions/Responses’, where participants were at liberty to raise any issues of personal concern or interest. All contributors were asked to preface any statement with their names, which facilitated attribution and was then anonymised.

As Patton & Cochran (2002) point out, there is no ‘right way’ to organise, analyse or interpret qualitative data. As always, the approach to adopt depends on the purpose of the analysis, often relying to some extent on ‘creative insights’ (Rajasekar, Philominathan and Chinnathambi, 2006), but in order to organise, analyse and construct meaning from this quantity of qualitative data some condensation was essential. The data was linked to the research questions. The aim was firstly to build a coherent body of evidence to explore the research questions, and secondly to record and present common aspects of the farmers ‘voice’. Therefore, to analyse this bulk of data I retrieved from my fieldwork, a thematic analysis approach was adopted.

The strengths of any research process can be judged in terms of how well it has addressed the needs of the research questions. On this measure, the ‘mixed methods’ approach adopted in this study, which combines quantitative and qualitative components, within a one-off field visit (11 months) appears to have been productive.
My approach has had to be pragmatic, adapting to unavoidable logistical constraints, which affected the timing of access to the fieldwork sites. However, the field research (combined with secondary data sources) has ultimately facilitated the collection of an original and rich data-set encompassing the poverty characteristics of informal economy workers in PHC, individual households’ livelihood paths, their social networks and the interface between these people and the economy.

The choice of theoretical or conceptual framework (social network of studying informality in Nigeria) was crucial here as it helped define the methodological choices (Sumner and Tribe, 2008). I have been cognisant that during the research process the researcher inevitably imposes his/her own framework or meaning on the data in terms of initial selection of respondents, in deciding ‘whose voice is heard and who is silent’ (Kvale, 2008). I think to the best of my knowledge; these processes have been thorough through the interpretation of the research environment which informs it. To counter this assumption, I use selected quotations from individuals themselves at various points in the empirical analysis that follows in later chapters, generally reproduced verbatim, as well as observations from field notes (referenced with location and date). In this way, I hope to capture, however imperfectly and incompletely, both the voices of informants and the setting in which this research has been conducted.

4.5 Judging Quality in Mixed Methods Research

Inherent in the ‘mixed methods’ research strategy that I have chosen for this study (and the ‘triangulation’ it facilitates) was an implicit concern with validity and reliability. Mixed methods research inevitably involves working with different types of data (Cotten, 1999). My fieldwork generated both quantitative and qualitative data, thus making judgments on the quality or rigour of both the research process and outcomes more complicated, rather than more straightforward. Indeed, as Silverman (1998: P 47) cautions, ‘it should not be naively presumed that combining methods and aggregating data leads to an overall truth, or to a more complete picture, or to increased validity’.

One approach is to broaden out what is meant by ‘validity’. Validity (in social scientific terms) means whether the method(s) adopted investigate what they purport to
investigate (Kvale, 2008) and that the techniques have been properly applied (Gioia, Corley and Hamilton, 2012). In a narrowly (quantitative) positivistic sense validity is associated purely with measurement (in numbers) of an observable reality; in a broader conception, validity could also pertain to how far what we observe (and record) reflects or represents the phenomena we are interested in. In other words, validity becomes the extent to which account is an accurate representation of the social phenomena that it claims to depict (Thomas, 2010). How can this be judged? In qualitative research, this relates to how well the empirical research is located in or related to the broader (theoretical) context. In terms of qualitative data I have been aiming to demonstrate ‘acceptable honesty’ in the way that findings are presented, in the depth, richness and scope of data, in the selection and range of participants and some attempt at triangulation (Cowan, 2011). This is clearly not just a concern in qualitative approaches, however. While it may be more straightforward to justify the validity of quantitative data – by reference to sampling procedures and accurate recording – ensuring researcher objectivity in the interpretation and analysis of this data is clearly always an issue (Vaivio, 2012).

In this research, I grouped my interviews into three main categories (social survey, in-depth interviews and focus group discussions). I have analysed the social surveys using Microsoft Excel software and that enabled me to purposely choose households that fell into the different categories of my research. At the in-depth interview phase, the core aim was to find out why urban households living in the Rukpokwu area of Port Harcourt City Nigeria engage with UA. Because of this question, I divided my research group into four (Just starting, diversifying within, moved out and never done UA).

4.6 Conclusion and Limitation of the Methodology

Using a mixed method for this research was difficult but appropriate at the end of the research period. As a single researcher, it was tasking to carry out both qualitative and quantitative research, because two or more approaches were sometimes used concurrently. This method took me extra time to learn more about multiple methods and approaches and understanding how to appropriately mix them. Therefore, the multi-tasking nature of this method makes it very difficult for a single researcher. Methodological purists contend that one should always work within either a qualitative
or a quantitative paradigm. Using mix method for this research is more expensive, requiring more time and resources. Some of the details of mixed research remain to be fully worked out by research methodologists (e.g. problems of paradigm mixing, how to qualitatively analyse quantitative data, how to interpret conflicting results).

This research focused on the practitioners alone without delving into policy level despite traces (Land Use Act 1978) of lack of policy hindering the growth and development of UA in Nigeria. I think that is one of the limitations of my study but I was aware of it from the onset and wanted to deal with the primary problem which is researching urban households and their choice to start, diversify within and move out of UA. To understand how sensitive the topic is, the practitioners’ names in this report are not their real names because they do not want it to reflect. For example, the farmers in the RUST who are not sure of their tenure are saying it is very possible that the new VC will ask them to forfeit the land they have been using for the past 10 years. Water that the former VC connected to them to irrigate with has been cut off by the new VC, the university on the other hand have partnered with some multinationals to start a vegetable farm very close to them without assisting these farmers. The problem of double taxation by the LGA contractors on taxes and harassment is another problem that is constant from the weak or anti-poor policies in the city.
The fact that I am from Port Harcourt City and know my way within the city and how these people I am working with fare in their daily pursuit of livelihood trajectories is another. The questions will be, was I too sentimental about this research or was emotion running through me when I see what I have passion for but have not been able to change and intend to change it through this research? I think if I did not let go of my emotional attachment towards the plight of the poor in PHC and concentrated on my research it would have had significant toll on my findings. I understood that if I can concentrate (which I did to the best of my ability) on gathering data on these people and their activities, then my findings and recommendations will help chat a new course for them in the nearest future.

The other limitation to this study is security, during this fieldwork period there have been serious political tension in the city of Port Harcourt between the ruling People’s Democracy Party (PDP) and the opposition the All Progressive Congress (APC). There were series of threats, political assassinations and kidnappings in Rivers State.
during this period because of the rescheduled national assembly elections which my elder brother was one of the candidates. Their political party the APC is minority in the state and so there were serious security concerns when I was going to the fieldwork sites, but I managed to scale through the hurdle. This made me security conscious and avoid working too late in the evening, as politically motivated kidnappings and assassinations cases were rampant during this period. This did not affect my studies in some anyway because my respondents too understood the security challenges in the city and dealt with it accordingly. Urban citizens in PHC are conscious of these challenges and factor it into their working hours to get home early evening and that was how I managed to keep safe during my fieldwork in PHC.
CHAPTER FIVE

Context of Urban Agriculture in Port Harcourt City

Introduction

This chapter presents the context of urban agriculture in PHC and presents the results of different elements of my research. The participants in this research were urban households living in Rukpokwu area of Port Harcourt city. This research sampled 253 households and purposively chose 40 among them for in-depth research. They are all Nigerians from different states and local governments. State of origin or nationality was not used as a criterion for inclusion into the research, but the households had to be linked to the production phase of urban agriculture. Since informal economy contributes immensely towards the economy of PHC, I broadly expand my scope of research to look beyond urban agriculture workers alone to other informal economy workers in the area. I did this to study how other households who are practicing other informal economy activities build their livelihood pathways without neglecting their engagement with the urban fabrics of the city. As I have stated earlier in the methodology (chapter 4), this process started with a social survey and ended with a focus group and I selected forty urban households who answered the question “how do urban households living in Rukpokwu area of PHC start, diversify within and move out of UA”. I grouped these households into four groups of 10 households each and the groups are: just starting, diversifying, moved out and never done UA.

The chapter is therefore structured in the following way; Section 5.1 introduces the research background and study area, explaining why the research chose Rukpokwu area of Port Harcourt City. Section 5.2 explained methods of land acquisitions in the land market of PHC, explaining the different types of land access that exist in both in the formal and informal land market. Section 5.3 explains the phases of land reforms in Nigeria and the place for the urban farmers. Section 5.4 explain the demography of the research participants and interpretation of the statistical results. Section 5.5 explained methods of land acquisition in the urban land market of PHC. Section 5.6
explains integrated farming systems; how mixed farming is in turn feeding itself and fitting into the UA chains (from production to reuse).

Section 5.7 analyses sources of income of respondents, how urban households fend for the food security of their respective households. Section 5.8 takes a critical look at access to extension services by the urban agriculture workers in PHC, the role government agencies plays to assist the farmers. Section 5.9 explains different weed control mechanisms in effect in urban agriculture of PHC, it explains the role of indigenous knowledge system in this area and how farmers are taken advantage of it. Section 5.10 discussed different ways these urban agriculture workers preserve water and how they irrigate their crops. Section 5.11 ended the chapter with summary of what the chapter has found and leads the thesis into the next chapter.

5.1 Research Background: Study Area and Participants.

5.1.2 Choice of Study Area

I chose this area because the property rent is still relatively lower compared to the inner city (evident from my scoping visit) and new entrants into the city economy look out for such opportunities too. The opportunities provided by lower house and land rents, enable new entrants into the informal economy to take advantage and tap into the already existing market. Similarly, because of the vast availability of fertile land and its closeness to the ever-busy airport road (formerly Ikwerre Road), UA thrives in the area. Rukpokwu is strategically located within the geography of Rivers State (its location between the old and new city and the fertile land it sits on). Also, as I have stated earlier in this thesis, Rivers state indigenes are predominantly crop farmers and fishermen (Salau, 1983 and Foresight, 2011), while the riverine communities are mainly into fishing, the upland communities are into crop farming and Rukpokwu is part of the upland.

With the development of infrastructure in the newly proposed city kick-starting, the focus of real estate developers and businesses are moving into the Rukpokwu area. Some of those completed projects are the forty-thousand seated capacity stadium (The Adokiye Amiesimaka stadium) and the road linking the airport to PHC crossing
the East-West road to join Rumuokwuta road and into the inner city. These projects did not only beautify the area, but attracted workers to the area and opened access to the area also. It is also very evident that the informal economy is very vibrant in the area. The growth of informality can be seen on the way from the airport down to the inner city: how people take advantage of every opportunity and turn it into business was another reason. From planting by the road sides, to hawking in the traffic, makeshift mechanic workshops, food selling kiosks and informal shops along the roads shows signs of informal economic activities in the city. The urban agriculture workers in the area practice urban farming informally, making use of low inputs, high indigenous knowledge and mixture of farming types.

Attention to gender issues is important in relation to UA because in the sphere of production, women in the households tend to be the main workers and make the day-to-day decisions about production. However, these decisions and activities are, at least notionally, under the control of the eldest male in the household. In order to get to gender issues, without explicitly raising them, I approached each household with an intention to conduct the research with the household’s head with the assumption that when the questions started to relate to urban agriculture, the eldest male would defer to the women involved. This assumption was correct, 45% of the time and the occasions where I interviewed women from the start was in cases where the household was headed by a single mother, divorcée, widow or the household was part of a polygamous family. This proved to be a practical way to allow gender issues to emerge without having to get into lengthy and complicated conversations with men about the research. The highly gendered nature of UA is an issue that I return to in discussion of legacies and linkages in Chapter six but I will start by discussing how land access and Land Use Act 1978 affects UA engagement in PHC.

5.2 Legal Framework on Land Use Planning Legislation and Environment in PHC, Nigeria.

Secured land tenure is a serious concern when dealing with the issue of provision of food to the rapidly growing urban populations in Port Harcourt City, Nigeria. For
instance, though there is a Land Use Decree 1978 that deals with how land should be administered, it is still evident till today that with the exception of Abuja which is the federal capital territory, in other states, the majority of lands are still administered through their traditional landownership\(^{25}\)(Guyer et al., 2007; Awotide, Kehinde and Agbola, 2010). The owners register such land to avoid issues of land racketeering and as such the landholding families are prevented from reselling such land to different people. These scenarios (different members of a family selling the same land to different members of the public) have led to more ambiguity in the urban land market of PHC.

In Nigeria, the Land Use Act 1978 did not explicitly define urban households’ right to farm in the city, although it was meant to usher in new land reform in Nigeria, it soon became a clog in the wheels of development. This was more so because the Military Government, which promulgated it, also ensured it was embedded in the Constitution of the country (Fabiyi, 1984). Thus, Scheierling & Mara (2010) argued that any attempt to rectify its inadequacies generally required a constitutional amendment. Reducing land conflicts among citizens, unifying and simplifying land tenure concepts and land administration procedures throughout the country were targets of this Act. This Act has survived decades of mixed military and civilian rules in Nigeria and nothing has been done to amend it. This research has come in a reasonable time when the 9th Senate of the Federal Republic of Nigeria is embarking on a constitutional review process. More on the Land Use Act 1978 and how it affects the aspiration of poor urban households engaging with urban agriculture will be discussed in chapter five.

La Rosa, Barbarossa, Privitera, & Martinico (2014) describes land use or physical planning as a process aimed at achieving orderly physical development with the overall aim of evolving a functional and liveable environment where individual and common goals can be achieved. Mabogunye (2010) argued that in urban centres, the essence of land use planning is to ensure that urban activities are organised and developed in physical space with due consideration for the protection of the public interest which include health, safety, convenience, efficiency, energy conservation, environmental quality, social equity, social choice and amenity. These are also

\(^{25}\)This is where private landowners sell their lands to individuals and such person will take the agreement they signed to the land registry and formally register the land to formalise it.
features of sustainable development. The United Nations Conference on Environment and Development (1992) included sustainable land use planning as one of the eight programme areas of Agenda 21 and it is evident in SDGs 11. The objective of the programme area is to provide for the land requirements of human settlement development through environmentally sound physical planning and land use so as to ensure access to land to all households. Taiwo (2014) argued that planning practice in Nigeria was not creating spatially sustainable new settlement and cites because planning is like preventative medicine whereas professional planners in the country have spent the last generation focusing on curative medicine.

As stated earlier in the methodology chapter, Nigeria is a federation of 36 states and the Federal Capital Territory (Abuja), while Port Harcourt is the capital of Rivers State (Ebeku, 2008; Ita Enang, Reed, & Kayaga, 2016 and NBS, 2014). The hierarchy of government is distributed between tiers with a very powerful federal government, the constituting states and local government areas (LGAs). Planning is derived from this structure because the federal government plans at the supra and regional level, that gives rise to agencies that cut across many states or the country as a whole. Ikoku (2004) argues that the River Basins are outcome of this position and national cities like Lagos and Abuja are considered spheres were the national government contribute significantly. Jack, Coles, & Piterou (2016) said that States concentrate on sub-regional plans and local plans, by this arrangement, all other cities in Nigeria besides Lagos and Abuja predominantly fall under state planning regulations.

There is also good planning authority exercised at the Local Government Authorities (LGAs), but it is limited by lack of resources to plan with and general dereliction at that level of government in Nigeria. Urban Planning in Port Harcourt is essentially through the instruments of the state government because it overlaps several LGAs. There are also federal planning influences in places where it has acquired large interests, for example, Onne Town and its environs which hosts the Onne Oil and Gas Free Zone had a separate master plan drawn up by the federal government since 1980. How that plan will co-mingle with Greater Port Harcourt Master plan is not clear because the authors of the New Master Plan did not indicate its existence. The relationships of the various planning authorities in Nigeria are illustrated in Figure 6.
Port Harcourt was formally established in 1912 under British rule. Wokekoro (2016) argued that the city was planned and land use controls were established, as per the British system of town and country planning, to manage the urban composition and its growth. City planning entailed the establishment of a central business district that for the most part housed commercial and institutional uses, surrounded by homogenous residential areas and suburbs. Provision was made for open spaces and parks, little of which still remain today, but, which together with the tree-lined arterial routes, earned Port Harcourt the status of Garden City. Eyene Opanachi and Ali Garba (2010) said during this period, Port Harcourt grew into a major city, accommodating roughly 195,000 people by the 1960s. Then came independence and 30 years of military rule, which brought with it serious instability. International Crisis Group (2006) argued that during this time, there was no regard for planning and formal development, and nearly all established planning procedures, systems and structures were abandoned. However, it was also in this time that petroleum was discovered, which despite volatile governance resulted in major population influx into the city which continues to this day. Finally, the Land Use Act (1978) came into effect and affected how poor urban households engaging with urban agriculture as a livelihood strategy were treated by the government.

5.3 The Phases of Land Reforms in Nigeria and the place of Urban Farmers

The nationalisation of land administration currently practiced in many African states including Nigeria have been informed by the 1987 World Commission on Economic and Development (WCED). They said if natural resources are managed and administered by the government that it will be evenly distributed and less cumbersome or problematic (Aribigbola, 2008). Today (2020), such is not the case in Nigeria where citizens are experiencing the worst scenario in the petroleum industry that is managed by the federal government, and proceeds shared within the three tiers of government (Bruno Imokhai, 2015). This position that is constitutionally adopted and the management of natural resources in Nigeria, is adding more concerns than joy to the citizens.

Socio-cultural and political institutions regulate natural resources in urban areas but

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26Proceeds from the sales of crude which the Nigerian economy largely depends on.
these institutional arrangements do not ensure equal access. On the contrary, Hibbard & Lurie (2013) observes that the central control of natural resources in developing countries has greatly degraded the land and falls short of the ecologically sound practices. It is said that the traditional systems wherein local people used to manage natural resources during the pre-colonial era led to more equal distribution and access (Bowyer-Bower & Shiva 1996; Allendorf 2007; Simiyu 2013; Agrawal, Arun and Ostrom 2001; Agarwal 2001). When natural resources are not evenly distributed to all residents, it rather generates socio-economic, gender and ethnic inequalities. These are all evident in Nigeria currently and finding a way to manage and equally distribute natural resources found in urban areas for its citizens will be welcomed.

This implies that in Nigerian cities, whatever way one looks at it has created a huge gap between the rich and the poor, indigenes and non-indigenes, families and households. These groups are those that form the nucleus of an urban area in Port Harcourt and other cities of Nigeria. Furthermore, natural resources (such as; crude oil and gas) are said to belong to the Federal Government of Nigeria, wherever it is found within its borders. The part of the Land Use Act 1978 which gives the management of land to the Federal Government” and the Liquefied Natural Gas Act (LNG) 1990 and 1993 which gives exclusive ownership of natural resources to the Federal Government, makes it impossible for personal ownership of such natural resources in Nigeria. These ambiguities has created more security challenges in the Niger Delta region where local militia groups are destroying oil installations saying they are not having a fair share of the dividends of what their environment produces (Aghedo & Osumah, 2015; Ajibola, 2015 and Watts, 2011). Therefore, leaving the total control of land market in the hands of the government as currently practiced in most of the cities of Nigeria makes it near-impossible for the poor urban households to access or own land.

Poor urban households use strategies in overcoming myriad challenges militating against access to urban land in Nigerian cities. Acting collectively, forming co-operatives, acting on their fundamental human rights and social networks are some of the strategies adopted (Ellis, 1998; Ostrom, 2000; Meagher, 2005; Chuba and Eziyi,

27The demand for resource control by the Niger delta region, the militancy and unrest in the region that has resulted in violent kidnapping and destruction of oil installations are some of the evidence.
Also, Aluko (2011) opines that a mixture of customary, informal and formal practices are employed in securing land from indigenous landowners, principally aimed at ensuring customary and statutory legitimacy as well as secured tenure. Here an individual buy land informally and try to formalise the land title through the registry to have a secure tenure and this helps save the land from dubious land speculators. There are practices where cooperatives and associations secure land for their members by acting as sureties.

Availability and access to land is generally recognised as a prerequisite for sustainable urban livelihood for the low-income earners in urban areas of the global south. However, it has been observed that access to land for urban poor in urban areas in many of these countries is becoming highly problematic (Brown-Luthango, 2011). In African countries such as Nigeria, urban land has increasingly become a commodity to be acquired and sold to the highest bidder (Chuba & Eziyi 2011; White 1986). The low-income earners who lack economic and political power and have come to the city looking for what to do, what to eat and where to live (work, food and housing) cannot gain access to urban land. Thus, urban land allocated for school-to-land programme in the late 1980s were taken away by the government of Sir Dr Peter Odili\(^{28}\) in 2005 and converted for real estate purposes in PHC. Therefore, urban households are experiencing severe land accessibility challenges and that hinders their ability to engage with urban agriculture (Umukoro, 2012).

There are three phases of Land reforms in Nigeria from the 1914 when it became a British colony and protectorate till the 1978 when Land Use Act became functional. Understanding these phases of land rights in relation to the citizens of Nigeria and its government will make the recommendations on how land should be appropriated meaningful. It is to these phases of land reforms in Nigeria I turn to in the next section to explain how land access and tenure has fared in Nigeria during these periods under review.

5.3.1 The British Rule Phase

\(^{28}\)Sir Dr Peter Odili was the executive governor of Rivers State from 1999-2007 and exercised his powers as enshrined in the Land Use Act to revoke the School-2-Land’s land and converted it to real estate development.
The first reform started at the beginning of the 20th century when Britain made a colony and protectorate of Nigeria, whereby there were multiplicity of land tenure systems in the country (Fabiyi, 1984). Apart from the system in the Lagos colony, which was then the federal capital and was given a special treatment, where an English freehold system had been established following its annexation in 1861, these phase can be sub-divided broadly into two (Braimoh and Onishi, 2007). The first obtained in northern Nigeria where the colonial administration had placed all lands under the control and subject to the disposition of the Governor. This was on the basis that the Maliki Law operated by the Fulani over much of Hausa-land in the 19th century confers on the colonial conquerors the rights to the land of the conquered. This system, if it was still in operation today in Nigeria would be advantageous to powerful landless communities over their weaker neighbours that have more land.

An Ordinance of Government of Nigeria in 1953, directed that the Governor should hold and administer land for the use and common benefit of the native peoples. Any native or native community lawfully using and occupying land in accordance with native law and custom enjoys a right of occupancy protected by the Ordinance and no rent is paid in respect of such rights. In the case of all other persons, no title is valid which the Governor has not conferred. In this case, the governor is empowered to grant rights of occupancy for definite or indefinite terms, to impose conditions and to charge rents. The Ordinance lays down maxima of 1,200 acres for agricultural grants and 12,500 acres for grazing purposes (Aribigbola, 2008; Awotide, Kehinde and Agbola, 2010). Considering this ordinance and the present situation where herdsmen and farmers are clashing in every part of Nigeria, if kept it would stop open grazing and such confrontation.

According to Lynch, Binns and Olofin (2001) and Guyer et al., (2007), the arrival of Colonial rule from 1900, brought about the changes in land administration in Northern Nigeria. They said the first thing done under the British rule was to take over all rights of land from the Sokoto Caliphate and vest it in the hand of the British government.

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29A freehold is the common ownership of real property, or land, and all immovable structures attached to such land, as opposed to leasehold, in which the property reverts to the owner of the land after the lease period has expired.

30Communities that have influential and wealthy persons tends to outsmart those that do not have such in terms of project allocation, elective positions and general representation in the country.

31A state in Nigeria and the ancestral capital of Northern Nigeria

32The Sokoto Caliphate was an independent Islamic caliphate in West Africa. Founded during the Jihad of the Fulani war in 1809 by Usman dan Fodio. The Caliphate was abolished when the British defeated
Accordingly, land in the region was classified as crown land, which was vested in the care of the governor in trust of Her Majesty (Decker, 2008). The other called public land was vested in the care of the Governor for the people. However, whether in Northern or Southern Nigeria, land was considered by the people as right rather than privilege. Thus, access was not only through kinship but also allegiance to a local sovereign\textsuperscript{33} and it determines a relation to land. Considering these interactions with land in Nigerian cities, the position of the citizens at the beginning of the 20th century was that land was not sold.

The citizens believe that to sell land to a stranger or immigrant is to render the security of the community concerned a hostage (Fabiyi, 1984). Policies like this will be very much appreciated by the urban poor households engaging with UA who depends on land for agricultural production according to (Mabogunye, 2010). Hence, when the colonialists came, everywhere they went, they were told that there was no tradition of alienating land. Indeed, such was the situation that the British Colonial Office had to set up a special Lands Committee to investigate the land tenure systems in all of its West African colonies in 1912 to confirm the general customary laws and practices with respect to land (Ayanniyi, Balarabe and Mahmoud, 2014).

Yet, the extensive labour migrations that colonialism set in motion could not go on without land being alienated to strangers and migrants. Whether in the urban or rural areas, transactions in land gradually emerged in all parts of the country (Ikejiofor, 2006). Unlike in pre-capitalist society, such transactions also entailed the individualisation of land. Such land remained in individual ownership until the demise of the owner when, through the inheritance law, it again became subject to multiple ownership claims. The introduction of perennial crops such as cocoa, rubber, planted oil palms, all of which meant fixed cultivation, replaced the transient traditional shifting cultivation under group control by an enduring right of individuals. By the same token, building a house in an urban area entailed establishing an enduring right on the particular plot of land. Thus, as the colonial era progressed, land alienation and sales

\textsuperscript{33} This is the traditional beliefs of the people and it is evident in the libation and incantations they do during the exchange of land rights to a new buyer.
not only grew in volume and geographical spread but also became the cause of considerable litigation and communal strife, often resulting in violent confrontation.

The second type of land transaction and contrast to that which was practice in the North was in southern part of Nigeria, and recognised that land was owned by lineages or extended families. Individuals have only right of use on such family land and cannot inherit or own it, therefore selling or lending it to a third party was prohibited (Kaniye and Ebeku, 2002). The only land held at the Governor’s disposal was that which had been expressly acquired for public purposes as Crown land. The only control imposed by law on the lineages and other local land-holders was an obligation to seek the consent of government when rights are being conveyed to strangers or immigrants. This they say make them more secure as any stranger coming to live with them usually pass through the king and a form of documentation is done.

This land tenure system of southern Nigeria created several problems for land management in the country. First, it encouraged the practice of multiple sales of the same land to different buyers by land-owning families in the absence of a titling, and appropriate registration mechanisms for transactions in land (Mabogunye, 2010). This is made possible as different members of the family can claim to different buyers to be the authentic owner of such land. Also, particularly after the nation’s political independence (after 1960), it led to rise in the prices of land for urban and infrastructural development due to assumption that cities will provide better life opportunities (Oladapo Sam, 2014). There was not any definite place to verify the authentic owners of land and as such land speculators continually took advantage of the loopholes and defrauded potential buyers. In cities of Nigeria, including PHC, poor farming households were encouraged to part with their urban land for relatively small amounts compared to what the speculators (third party) made from laying the land out for sale (Taiwo, 2014). This promoted increasing inequality in land ownership and increasing landlessness among the poorer segments of the population.

5.3.2 Promulgation of the Land Tenure Law of Northern Nigeria
After Nigeria’s independence in 1960, the Land Tenure Law of Northern Nigeria 1962 was promulgated (McDowell, 1970). Analysts pointed out that the legislature submissively adopted substantial part of the Ordnances, affecting only a brief cosmetic
face-left (Fabiyi, 1984; Umukoro, 2012). With this, the problems of land tenure and administration persisted. There came problems of land speculations, racketeering, faulty and skewed distribution, monopoly and exorbitant demands for compensations whenever the government demanded land for development. Land tenure became the most complex and most delicate of problems facing agriculture (at all levels and at all locations) in Nigeria (Fabiyi, 1984; Guyer et al., 2007). Land that was said to belong to the people and should not be sold then become a commodity that the highest bidders were having a field day, deciding what to buy and at what point, thereby leaving the poor urban households struggling. This affected the way urban land was administered to the public and the effect it has on production for the urban households practicing urban agriculture became more severe.

5.3.3 The Land Use Act 1978
The period between 1975 and 1978, was the time when an attempt at having a sense of national purpose and wellbeing was made with the promulgation of the Nigerian Land Use Decree No 6 (Land Use Act, 1978). By the provision of the Act, all lands within the territory of each state are vested in the Governor of that state and such land is held in trust and administered for the use and common benefits of all Nigerians. The Act heralded policies such as the power of the Governor to declare territory within the state urban or rural and decide what happens in their state’s land (Land Use Act, 1978; Ako, 2009). Another of such policy is that which holds that urban land is meant for housing and other urban industrial use. This means that although people still practice urban agriculture in and on the fringes of PHC and other Nigerian cities, but it is officially illegal according to this law.

Basic principles of land tenure law of Northern Nigeria 1962 include; The basic principles of land tenure in Northern Nigeria are contained in sections 4, 5 and 6 of the Land Tenure Law and are as follows: (a) "... the whole of the lands of Northern Nigeria, whether occupied or unoccupied, are hereby declared to be native lands." (b) "All native lands and all rights over the same are hereby declared to be under the control and subject to the disposition of the Minister and shall be held and administered for the use and common benefit of the natives, and no title to the occupation a use of any such lands by a non-native shall be valid without the consent of the Minister." (c) "It shall be lawful for the Minister to grant rights of occupancy to natives and non-natives." (McDowell, 1970). These principles are drafted into the Land Use ACT 1978 and as such the issues of land not evenly distributed persists.

This includes disadvantaged urban households and groups that might need land for the purpose of engaging with urban agriculture.
By the Land Use Act 1978 all lands comprised in the territory of each state with the exception of land belonging to the Federal Government or its agencies at the commencement of the Decree are vested in the Governors of the States. The meaning and effect of vesting all lands in the government is that private ownership is hereby abolished and the title of the former private owners transferred to Government (Land Use Act, 1978).

According to NBS (2010), half of Nigeria population lives in cities; 80% live in slum conditions including waterfronts. Rapid growth of cities has engulfed nearby towns and villages, pushed back forests and coastal mangrove areas, and created conditions of congestion, poor health, and poverty (USAID, 2013). Sixty-four percent of Nigeria population lives on less than $1.25 per day; women-headed households are among the poorest (Halkias et al., 2011). Prior to 1978, Nigeria system of customary land tenure provided families and individuals with use rights to rural land for agriculture and urban/town plots for housing that were heritable within families and lineages. In 1978, the Land Use Act (or Decree) was enacted. The objectives of the Land Use Act were to: (1) make land accessible to all Nigerians; (2) prevent speculative purchases of communal land; (3) streamline and simplify the management and ownership of land; (4) make land available to governments at all levels for development; and (5) provide a system of government administration of rights that would improve tenure security (Land Use Act, 1978; USAID, 2013). The Land Use Act of 1978 is incorporated into the 1999 Constitution, making it difficult to revise or replace (Government, 2007). An effort to introduce new land reform legislation was buried in committee in March 2010 and it is not likely to resurface until the inauguration of the 9th National Assemble (June, 2019).

Section 315 (5) (d) of the 1999 Constitution (as amended) specifically listed the Land Use Act as one of the existing laws that has been given effect by section 315 (1). Although the Federal Government puts forward the argument that the Land Use Act was enacted to curb the problems of multiple and complicated land tenure system in the country and to make land accessible and affordable for investments and developments, but the Act has modified almost all the rights of land owners in Nigeria.

A constraint of the Act on UA is the insecurity of tenure regarding urban “undeveloped land” which may be in use for urban agricultural purposes. By the provision of the Act all lands in 'urban areas' are primarily for residential and other urban land demands. Thus, no formal provisions was made for “urban agricultural” purposes in urban areas.
but 36(2) quoted below tried to give right of use but complicated by 3, 34(5,6) of the Act (Land Use Act, 1978). Ideally urban farmers would like to obtain access through a formal system, (ownership, rent/lease) permit but in the case of urban centres in Nigeria currently, it is difficult for the urban farmers to have this desired access, owing primarily to the position of the law (Bryld, 2003). This constitutional situation in the way land is administered in Nigeria is different from what is practiced in Kampala and Accra to address similar situations (Nkurunziza, 2008; Barry and Danso, 2014c). These systems of land use planning (practiced in Kampala and Accra) helped in legalising UA and improved the livelihoods of the urban households practicing urban agriculture in those cities.

36 (2) Any occupier or holder of such land, whether under customary rights or otherwise howsoever, shall if that land was on the commencement of this Act being used for agricultural purposes, continue to be entitled to possession of the land for use for agricultural purposes as if a customary right of occupancy had been granted to the occupier or holder thereof by the appropriate local government and the reference in this subsection to land being used for agricultural purposes includes land which is, in accordance with the customary law of the locality concerned, allowed to lay fallow for purposes of recuperation of the soil.

There is an increase of rural-urban migration in the city of Port Harcourt Nigeria, owing to the status of the city as the petro-economy headquarters in the country. The same way urbanisation and its adjoining urban poverty is on the increase in the global south coupled with hunger (Sathuraman, 1976; Crush, Frayne and Pendleton, 2012; Cabannes and Raposo, 2013). The condition of poverty in cities has been associated with lack of access to urban natural resources (Rakodi 2003; 2011 Ellis 2006; Swaminathan 1996; Igbedioh 1993) and poor management of urbanisation (Fox & Goodfellow 2016; Drechsel et al. 2010). Poor planning and misplaced intervention programmes have led to poverty greeting you when entering cities of the global south such as Port Harcourt. The most significant sign of poverty is seeing beggars in the traffic and under the bridges begging for alms to feed, this has led to the question, ‘where is the place of food production in our cities’?

34(5) Where on the commencement of this Act the land is undeveloped, then (a) one plot or portion of the land not exceeding half of one hectare in area shall, subject to subsection (6) of this section, continue to be held by the person in whom the land was so vested as if the holder of the land was the holder of a statutory right of occupancy granted by the Governor in respect of
the plot or portion as aforesaid under this Act; and (b) all the rights formerly vested in the holder in respect of the excess of the land shall on the commencement of this Act be extinguished and the excess of the land shall be taken over by the Governor and administered as provided in this Act.

By their nature, the dominance of the built environment makes it difficult to produce sufficient food for the urban population. But food supply and cities have built close relationship since the very first emergence of cities (Steel, 2008). Focus has been on the relationship of “the cities’ and rural areas where food was supplied from to feed the cities (Fonchingong 1999; McNicoll 2011; Mougeot 2000; Crush et al. 2012). The cost of producing and transporting these foods to cities couple with the governance of these supplies became a major concern to planners. Part of the reason for these concerns is the obvious reliance of cities on the production of food in the rural hinterlands. This remains an issue for almost all cities today. However, what such analyses tend to overlook is that practices of urban agriculture have probably co-existed within cities for centuries.

To address this situation in cities such as PHC, I think section 3, 35 (5) (6) and 36 (2) of the Land Use Act 1978 should be revisited or Governors of states in Nigeria should act and save the day for UA.

Section 3: Designation of urban areas: Subject to such general conditions as may be specified in that behalf by the National Council of States, the Governor may for the purposes of this Act by order published in the State Gazette designate the parts of the area of the territory of the State constituting land in an urban area.

With the power vested in the hands of Governors over land in their various states and most especially urban land, it is the governor’s power to decide what happens and where. Section 36(2) gives right of use to those that own urban land and using it for agricultural (not urban agriculture) purposes before the Act was promulgated. Section 34(5) (6) reduced such land allowing the landowner to retain just one plot while the government took ownership of the rest without compensation. Section 3 gives the Governors the power to declare any part of the state urban and laws affecting urban is applicable to such area if so declared. In Nigeria today, exception of Ibadan in Oyo state, south west Nigeria, where Resource Centre for Urban Agriculture and Food
Security (RUAF) operates, there is no law or bylaw by any other state or local government promoting urban agriculture in the country.

5.4 Demography of Research Participants and Interpretation of Statistical Results.

This section examines some of the economics and socio-cultural characteristics of the urban households that I sampled in this research. These may be part of the reasons that prompted these urban households to start, diversify their livelihood activities within and move out of UA in this area of PHC. These interactions between age, marital status, level of education, religion, number of plots of land, tenure of land, means of transportation owned, size of households was analysed. It is important to note that this household survey was not done to precisely test and analyse relationships as done in pure econometrics but for this research to provide simple but accurate/useful summary of the studied population. It is to the social survey of 253 households stated earlier that I turn to, and later the combined results from the four groups.

This thesis will go on and represent its findings with statistical graphs and it is important to note that on the vertical side of the graphs, number of occurrences will be represented while on the horizontal lines, the variables accordingly.

Figure 11: Household size from social survey
In this research, I sampled 253 households during the social survey and got 1,056 household members in total. I was interested in talking to the household heads, which was usually the husband or father of the house and in his absence the mother of the house or the most senior male. After my pilot study and grey areas of my questionnaires were redefined, I started my social survey and result of household size conforms with that of the Nigerian Household Survey (2014). The majority of the households in my study have four members (201 out of 253) which is what their study suggested (NBS, 2012a).

Figure 12: Households Present Religion

Nigeria is divided according to region when it comes to religious beliefs. While there is a high concentration of Muslims in the Northern part of the country, in the South there are more Christians. Evident from my research, out of the 1056 people that constitute the 253 households I sampled, 946 are Christians, 70 said they are traditional believers and 40 are Muslims. The result also show that Nigerians practice their religion wherever they found themselves within the boundaries of the federal republic.
While this cannot tell the true picture of employment situation in the area because it considered every member of the households, it shows the significance of informal economic activities in the area. 101 members of the urban households said they are formally employed, 142 said they are formally unemployed. Informal employment got the highest figure of 415, self-employment 66, apprenticeship 61. There are 56 reported students, those that marked none are 187 and includes the newly born and nursery and finally there is the group of 26 that marked their occupation as others. When combining the figures from informally employed, apprenticeship and self-employed, then the true picture of the role of informal economy begins to show in this area. I combined the three categories above because of the similarity in the way they use elements of social relations of urban agriculture to employment in the informal economy of PHC.
Figure 14: Identification of the four groups from the 253 Urban Households in My Social Survey.

![Diagram](image1)

Figure 15: Transportation Owned by Household Members

![Diagram](image2)

This result shows that majority of the sample population is without any form of personal transportation and depends on walking or public transportation for their daily activities. While the analysis comprised of all the 1056 members of households sampled, it should be noted that with 53 people owning cars, 4 trucks, 49 motorbikes, 6 tricycles and 39 bicycles, the area is not too poor. The neighbourhood therefore offers
accommodation for the wealthy, poor, middle class as evident in the economic activities of household members in figure 16 above.

Figure 16: Educational Qualification of Household Members

Analysis of the result in the chart above (fig 17) shows that majority of the respondents have some form of educational qualification. This shows that people are encouraged to access the basic forms of formal education which is free for the elementary pupils. I will now turn to the analysis of the combined forty households I purposively selected from these 253 households I sampled in the social survey.
5.4.1 Analysis of Combined Household Size, Gender and Ages of Participants

Figure 17: Distribution of household Sizes among 40 selected households.

This conforms with the data from the Nigerian Household Survey (2014) and the results from the analysis of my household survey. Households in this study are dominated by 4-member households.
There are more young household heads in this area of PHC (30-50) as against (51 and above). This supports the observation I made earlier that young households and new entrants into the city chose this area because of the opportunities it offered in the informal economy of PHC.

Figure 19: Gender distribution among participants’ household heads in the study.
There are 22 men and 18 women respondents that I studied in-depth in this research and I placed focus on the household heads respondents. This does not mean that the number of female-headed households in this area is so close to men but for factors which I have explained earlier. But for clarity, as explained in previous chapters, households where the husband is involved in other informal economic activities, the most senior woman who practices UA represents such household in this research. In cases of polygamous households, any of the wives whose house fell within my social survey and ticked the boxes for inclusiveness was recruited. Therefore, among the female headed households, there are women from polygamous households, single mothers’ households and widows headed households.

From analysis of the 253 households’ social survey and the selected 40 households’ demography, I will then turn to each of the group of 10 households. This will accord my research the opportunity to explain the uniqueness in why I chose and grouped them as I have done.
Demographic Characteristics of Household Groups

5.4.2 Diversifying Households

Table 1: Selected Demographic characteristics of respondents and households of those households diversifying within

<table>
<thead>
<tr>
<th>N/B</th>
<th>Gender</th>
<th>TP OWNED by Household Heads</th>
<th>EDU LEVEL</th>
<th>HH-SIZE</th>
<th>AGE of Household Heads</th>
<th>RELIGION Of Household Heads</th>
<th>Size of LAND PLOTS used for UA by HH</th>
<th>LAND TENURE</th>
</tr>
</thead>
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<tr>
<td>HH-001</td>
<td>F</td>
<td>Bicycle</td>
<td>SS</td>
<td>5</td>
<td>45</td>
<td>Christianity</td>
<td>1X3 (100M²)</td>
<td>Inheritance Secure</td>
</tr>
<tr>
<td>HH-053</td>
<td>F</td>
<td>Bicycle</td>
<td>NIL</td>
<td>6</td>
<td>71</td>
<td>Christianity</td>
<td>1X2</td>
<td>Formal Ownership Insecure</td>
</tr>
<tr>
<td>HH-061</td>
<td>F</td>
<td>Nil</td>
<td>TTC</td>
<td>5</td>
<td>48</td>
<td>Christianity</td>
<td>1X1</td>
<td>Insecure</td>
</tr>
<tr>
<td>HH-101</td>
<td>M</td>
<td>Nil</td>
<td>SS</td>
<td>6</td>
<td>48</td>
<td>Christianity</td>
<td>1X1</td>
<td>Inheritance Secure</td>
</tr>
<tr>
<td>HH-259</td>
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<td>Nil</td>
<td>SS</td>
<td>4</td>
<td>39</td>
<td>Christianity</td>
<td>1X1</td>
<td>Insecure</td>
</tr>
<tr>
<td>HH-347</td>
<td>M</td>
<td>M.Bike</td>
<td>SS</td>
<td>4</td>
<td>49</td>
<td>Christianity</td>
<td>1X2</td>
<td>Insecure</td>
</tr>
<tr>
<td>HH-639</td>
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<td>BSc</td>
<td>6</td>
<td>55</td>
<td>Christianity</td>
<td>1X3 1X1</td>
<td>Formal Ownership Inheritance Secure</td>
</tr>
<tr>
<td>HH-709</td>
<td>F</td>
<td>Nil</td>
<td>SS</td>
<td>4</td>
<td>37</td>
<td>Christianity</td>
<td>1X1</td>
<td>Inheritance Secure</td>
</tr>
<tr>
<td>HH-789</td>
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<td>NIL</td>
<td>6</td>
<td>73</td>
<td>Christianity</td>
<td>1X1</td>
<td>Insecure</td>
</tr>
<tr>
<td>HH-991</td>
<td>M</td>
<td>Nil</td>
<td>SS</td>
<td>7</td>
<td>55</td>
<td>Christianity</td>
<td>1X1</td>
<td>Inheritance Secure</td>
</tr>
</tbody>
</table>

KEY: SS-Senior Secondary; BSc-Bachelors Degree; TTC-Teachers Training College

In the diversifying household group (DH) 7 households are represented by respondents that are women while 3 are men. This means that there are more women than men in this group but reflecting on the overall household survey, DH were more male headed. It is the woman that participates in production of UA that took part in the later stages of the study. The men occasionally help their wives on the farm, they do the cutting of the bushes and combine their other informal jobs with jobs in UA as well. While the respondents in the four groups were not selected randomly, the high percentage of women in this group draws attention to the significant role women play in feeding the households through urban agriculture production.
The is the households’ representatives of diversifying focus group discussion which was arranged to see if the interpretations of responses from individual in-depth interviews were the accurate reflections across the group. I was not restricted access to female farmers in the study and this is because Port Harcourt like other cities in the southern part of Nigeria is predominantly a Christian state. In this group, I have the ten Christian household heads and there were households where other religions were part of but my analysis focused on the heads. The seven women and three men that are involved in urban agriculture production in this diversifying group engages in varieties of agricultural practices. They said hunger, unemployment or start-up pack are motivations for diversifying within UA. They farm in their various ways making use of high level of indigenous knowledge and respecting cultural beliefs. Below is a quote from one of the female respondents.

In as much as we are predominantly farmers and fishermen in this part of the country, there are certain work that men and women are expected to do on the farm. If people pass and sees you doing a man’s job on the farm (e.g. cutting the bushes) they see it as taboo and this is applicable to the older men too. Apart from this gender do not play negative roles in our business - DH-1

What this means to me is that this respondent is expressing the role culture and tradition plays in Rukpokwu while dealing with gender in the practices of urban agriculture.
One of the reasons, I chose Rukpokwu area of Port Harcourt city for this research was because the presence of relatively young families who are starting their urban lives together. This area of the city sits between the old city and the proposed new city and has a lot of constructions going on thereby attracting a lot of young people in the informal economy. For the sake of helping in my analysis, I grouped the respondents (heads of households) in the social survey into age brackets (30-40, 41-50, 51-60 and 61-above). In this group, there are two household heads are within the age group of 30-40, four of 41-50, two of 51-60 and two of my respondents are 61 and above. I have eight of my respondents married and living as households, one is married but a polygamous marriage so her household is different from that of the entire family and one widowed. This is because of the study area and how relatively young majority of my sample size are, unlike some rural agricultural studies that shows more widows and elderly samples (Olajoke, Aina and Ogini, 2013).
In this group of diversifying households, three of the households have four members, two have five members, four have six members and one of my respondents have seven members in their households. Some of the household members are living with either their grandparents or where they are learning one trade or another, they were not counted as member of these households as at when this survey was done. I discovered that most of the people that increases the number of the households are not members of the family. This group tends to have more non-related individuals in the household to work on their farms as either casual workers or they informally employ them as their domestic staff compared to just starting households. These are the scenarios that play out in the urban households in the Rukpokwu area of Port Harcourt City Nigeria.
The place these people live and where some of the households worked are (between 3 and 28 km² with airport road being the closest and Iriebe the farthest) and when I saw that from my scoping visit to the area and the farms, I mapped the transport they own. Out of the 10 households in this group, seven households do not have any means of private transportation, two have bicycle and one household have motorbike. This implies that majority of these urban households’ commute to and from their farms with either public transportation or those that have their farms close, walk.
In this group, ten of the households are Christians and I have observed that it is because of two factors; the fact that Port Harcourt is predominantly a Christian state and religion in Nigeria tends to coincide with tribe and regions. While the Islamic religion dominates the Northern part of the country, the Southern part is dominated by Christianity. The second factor is land; it will be easier for a southerner to make use of their informal network and secure land informally in this side of the city than a northerner. There are more churches than mosques in this part of the country and as such, someone who is a new entrant into the city and gets a note from his pastor in the rural area or another city are listened to.

**Figure 25: Level of Education among the Diversifying Households**

Among the diversifying households, six of the respondents have a primary school qualification, one has Bachelor’s degree, one has a qualification from teachers training college while two don’t have any educational qualification. Further analysis shows that the two that do not have any formal educational qualifications are those that are 61 years and above, others in the age range of 30-60 years have one form of formal education. Although there is only an association between education levels and literacy, comparing this to the data of Unesco and Paris (2012) which put literacy rate
in the country at 74.6% urban, 48.7% rural and 74.6%, then this group did well above the national and city margin at 80%. This implies that urban households are taking advantage of the tuition fee-free elementary schools and also encouraging their children to embrace education.

**Figure 26: Number and Size of Land Owned by the Diversifying Households**

Where to farm has been a major constraint to urban households who want to practice UA in the city. I mapped the number of lands the respondents have access to. I make a distinction between “used” and “ownership” and it will be made clearer when I analyse the tenure on which they own the land. A plot of land is typically measured 100 x 100 meters square in Port Harcourt city. In this group of diversifying households, 6 of the households have access to one piece of land and it is a plot (1x1 plot), 2 have access to a piece of land and it is two plots (1x2 plots). The remaining 2 said they own a piece of land that is three plots (1x3 plots), lands are owned differently in the informal UA of PHC.

Land tenure which is defined as the legal regime in which land is owned by an individual or corporation that is using it at that time (Mougeot, 2000; Cofie, Veenhuizen and Drechsel, 2003a; Chu, 2011) is another major issue why households start, diversify within and move out of UA in PHC. As I will demonstrate later, in the UA of Port Harcourt City, urban households that have relative secure tenure tend to diversify
in UA when compared to those that have insecure land tenure. In this group of diversifying households, six of the respondent households have secured access to their land, two inherited their land while two formally owned their land and it is secured. The insecure lands are some of the lands that urban households encroached upon, sometimes public or government land that are not in use for a long time. The major problem with such land is that the occupant does not know the day that the rightful owners might want to make use of it and they tend not to give notice so such person loses whatever is planted on it.

**Figure 27: Land Tenure among the Diversifying Households**

Note: Inherited land are more secured because it is passed on from family to a household member and comes with customary title. When such land has been shared among family members, it is left for such household member to formally register it with the Ministry of Land to secure it more with a government approved title. Formal ownership happens when an individual purchase a piece of land and formally register it with the Land Ministry and all documents concerning the land is legally bearing the name of the new owner. An inherited land can be owned formally if these procedures are followed too.
5.4.3 Just Starting Households

Table 2: Selected Demographic characteristics of respondents and households of those households Just Starting Urban Agriculture

<table>
<thead>
<tr>
<th>NIB</th>
<th>Gender</th>
<th>TP OWNED by Household Heads</th>
<th>EDUC LEVEL</th>
<th>HH-SIZE</th>
<th>AGE of Household Heads</th>
<th>RELIGION Of Household Heads</th>
<th>Size of LAND IN PLOTS used for UPA by HH</th>
<th>LAND TENURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HH-013</td>
<td>F</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>5</td>
<td>37</td>
<td>CHRISTIAN</td>
<td>1x1 (100M)</td>
<td>INHERITANCE Secured</td>
</tr>
<tr>
<td>HH-085</td>
<td>M</td>
<td>CAR</td>
<td>BSC</td>
<td>7</td>
<td>44</td>
<td>CHRISTIAN</td>
<td>2x1</td>
<td>INFORMAL RENT Insecure</td>
</tr>
<tr>
<td>HH-173</td>
<td>M</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>4</td>
<td>30</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>INSECURE</td>
</tr>
<tr>
<td>HH-587</td>
<td>F</td>
<td>NIL</td>
<td>PRIMARY</td>
<td>4</td>
<td>35</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>INFORMAL RENT Insecure</td>
</tr>
<tr>
<td>HH-685</td>
<td>M</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>4</td>
<td>39</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>INHERITANCE Secure</td>
</tr>
<tr>
<td>HH-701</td>
<td>M</td>
<td>NIL</td>
<td>PRIMARY</td>
<td>4</td>
<td>59</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>INFORMAL LEASE Insecure</td>
</tr>
<tr>
<td>HH-793</td>
<td>F</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>7</td>
<td>56</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>INHERITANCE Secure</td>
</tr>
<tr>
<td>HH-801</td>
<td>F</td>
<td>MOTORBIKE</td>
<td>COLLEGE</td>
<td>4</td>
<td>38</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>INFORMAL LEASE Insecure</td>
</tr>
<tr>
<td>HH-925</td>
<td>F</td>
<td>MOTORBIKE</td>
<td>PRIMARY</td>
<td>4</td>
<td>33</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>LEASEHOLD Secure</td>
</tr>
<tr>
<td>HH-999</td>
<td>F</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>6</td>
<td>40</td>
<td>CHRISTIAN</td>
<td>1x1</td>
<td>INFORMAL OWNERSHIP</td>
</tr>
</tbody>
</table>

I recruited ten just starting households (JSH) residing in the Rukpokwuo area of Port Harcourt City. Their inclusion criteria were based on their location, taking part in the social survey, participating in urban farming and finally 3-12 months old in UA. I made these my criteria because most households that took part in the social survey had some of these qualities I was looking for but did not meet all the criteria.

In this group, four households are represented by men while six by women. This group tends to have younger participants compared to the diversifying households, seven falls between the 30-40 age range, one household head 41-50 and two are 51-60. In PHC, the easiest way to get into the informal sector is to practice UA using the informal network which you have or that of your family (Afinotan and Ojakorotu, 2009). The group is predominantly made up of Christian households and tap into their informal networks from the churches. In the group, eight of respondents were married, one is
single and the remaining one is a single mother. The single mother in the group and a never done household member said this about their involvement in UA and informal networks.

I benefited the land I am farming on from the church and I have borrowed money from the other group before too. When everyone turns their back on me because I got pregnant the church was there for me - JSH-1.

Nobody seems to loan me money in this city, everything I own I work hard for it and I have learned to live that way – NDH-4

What this means to me is that both respondents (JSH-1 And NDH-4) are expressing their views on how strong and weak linkages in the informal economy of PHC works. JSH-1 who have strong linkages with the church was aided in times of need while NDH-4 seems not to have any bond with others in informality and could not access loans.

The just starting household group, have three of its respondents with a primary school certificate, five with senior school certificates, one household head has a college degree while the remaining one has a Bachelor’s degree. This explains why a majority of urban households cannot get into the urban formal sector as desired, even when the informal jobs are not readily available. In this group, six of the households have four members in their household, two have seven members, one household have five and the last household have six members. When asked about the transportation they owned, seven of respondents in this group does not have any means of private transportation and depend on either public transport or walking to their farms.

From the previous chapters, I have been explicit on the critical role that land play as either a motivation or incentive to these urban households that necessitate them to start, diversify within and move out of UA. There are different tenures that land are held on in African and Nigerian cities (Braimoh and Onishi, 2007; Guyer et al., 2007)

36 The formal job market is Nigeria is competitive because it is not readily accessible and to access it, the applicant must possess higher qualifications and experience. This is collaborated by a Federal Inland Revenue Service (FIRS) Manager, who says the agency received 700,000 applications out of which 2,000 were graduates with first class honors degrees for only 500 advertised positions (NAN, 2016).
and different sizes that urban households have access to in cities (Awotide, Kehinde and Agbola, 2010). Mapping this made me to ask the households in this group the number of land owned and nine of the respondents have access to only one plot of land (1X1plot). Also, in this group, one household own a piece of land that is two plots (1X2plots). On the tenure, under which their lands were held, three inherited their land, four have their land on informal lease, two informal rentals and the last is on formal ownership. When analysed critically, four of the households that inherited their land in this group are the same that view UA as a family business and that tells us the role family plays in informality. The remaining six households have different tenure that are insecure and risked untimely eviction and this shows the fate of urban agriculture when practiced on insecure land.

5.4.4 Moved-Out Households

Table 3: Selected Demographic characteristics of respondents and households of those households that Diversified-Out of UA.

<table>
<thead>
<tr>
<th>N/B</th>
<th>Gender</th>
<th>TP OWNED</th>
<th>EDUC LEVEL</th>
<th>HH-SIZE</th>
<th>AGE</th>
<th>RELIGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>HH-045</td>
<td>M</td>
<td>CAR</td>
<td>MSC</td>
<td>6</td>
<td>45</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-109</td>
<td>F</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>4</td>
<td>31</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-181</td>
<td>M</td>
<td>CAR</td>
<td>SECONDARY</td>
<td>4</td>
<td>52</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-311</td>
<td>M</td>
<td>NIL</td>
<td>PRIMARY</td>
<td>4</td>
<td>62</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-391</td>
<td>M</td>
<td>MOTORBIKE</td>
<td>BSC</td>
<td>4</td>
<td>67</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-499</td>
<td>M</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>4</td>
<td>42</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-567</td>
<td>M</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>4</td>
<td>33</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-633</td>
<td>M</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>4</td>
<td>40</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-749</td>
<td>F</td>
<td>NIL</td>
<td>PRIMARY</td>
<td>4</td>
<td>47</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>HH-827</td>
<td>F</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>2</td>
<td>48</td>
<td>TRADITIONALIST</td>
</tr>
</tbody>
</table>

This group is the third group purposively picked after the result of the social survey was collected and analysed. I considered this group to be part of my study because I believed they have had the experience of living in the city and farming then moved out of urban farming too. The experience which they gathered during the years in urban agriculture and their perception towards life in the city (urban life) is what I intended to know from them. Fortunately, during the analyses of my social survey results I got very
interesting households that have diversified out of UA but into different sector of the city economy. In this group, there are combination of people from the formal and informal economy. They contributed experience they got from practicing UA and what they are currently doing. Therefore, every member of this group has practiced UA before and moved into other urban economic activities outside urban agriculture production phase.

Ten households were recruited purposively into this group from the randomly sampled social survey and analysis of them shows the following; eight of respondents are men and two are women. Among this group, eight of respondents are married, one is widowed and one of the household represented is headed by a single mother. When the size of the households was analysed, the results shows that eight households in this group have a four-member household, the remaining two households have two and six members respectively. This implies that composition of households in this group (4-member) support the data of the National Household Survey (2014) and my social survey that have a majority of four-member households.

Among this group, six of the household heads have senior school certificates, two have primary school, one has Bachelors and one has a Master of Science degree. The implication of this is that a majority of households in this group have basic formal educational qualification. When transportation owned was analysed, seven of the households in this group does not have any means of private transportation, two own a car and one owns a motorbike. There are five household heads with age range of 41-50 years old, three of those with 30-40, one is between 51-60 and one that is of 61 and above. Among the respondents in this group, there are nine Christian households and one other which is neither Christian nor Muslim. Implication of the age and religion of this group, shows that majority are from the Southern part of Nigeria where Christianity is dominant. The 40-50 years old dominating means they have considered and weighed options available to them from their experience during the practices of UA and taken decision that they think favours them.

I ended my discussion with this group by asking why they moved out of informal urban agriculture and these are what the households told me. Among the respondents, four said they moved out of UA when they lost access to the land they were farming, two
said they left when they got a job outside UA. Reflecting on the previous group and land tenure, those that inherit lands have the full ownership of such land and in this group, two of my respondents sold their land and moved out. This is common among the Ikwerre ethnic groups which Rukpokwu is part of. The younger generations mostly sell their lands once it is transferred to them and seek other opportunities outside of farming. The remaining two of my respondents said they moved out of urban farming when they retired from teaching and pastoral work where they had access to land and labour.

Figure 28: Why members of the moved-Out Households did so.
5.4.5 The Never Done Urban Agriculture

The economy of Port Harcourt city like most of the other cities of Nigeria is mostly
driven by the informal economy not minding the petroleum industry that funds the
national budget (Chukuezi, 2010) and they interact with the formal economy too.
These interactions, according to Olajoke et al., (2013) overlaps and required me to
c Consider this group of urban households into my research. They are urban households
that are engaged in other forms of informal economic activity but not involved in UA
production. In this group, I have a vehicle spare part dealer, a fish seller, a taxi driver,
a mechanic, a security man, a hawker, a food seller, a gardener, a teacher and a
tricycle driver. I carefully selected these households from the various households I
came across during the social survey because of their intertwined relationships with
the informal urban agriculture workers and the city. The tricycle driver sometimes
carries farmers from the farms and instead of collecting money, he collects the
equivalent of his charges in vegetables and other farm produce. For example, the food
seller has this to say about her relationship with UA and the city

Table 4: Selected Demographic Characteristics of respondents and households
of those households that have Never Done Urban Agriculture.

<table>
<thead>
<tr>
<th>N H</th>
<th>Gender</th>
<th>TP OWNED</th>
<th>EDU LEVEL</th>
<th>HH-SIZE</th>
<th>AGE</th>
<th>RELIGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>H H-073</td>
<td>M</td>
<td>CAR</td>
<td>SECONDARY</td>
<td>5</td>
<td>42</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>H H-229</td>
<td>F</td>
<td>NIL</td>
<td>NIL</td>
<td>7</td>
<td>54</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>H H-245</td>
<td>M</td>
<td>CAR</td>
<td>SECONDARY</td>
<td>4</td>
<td>50</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>H H-681</td>
<td>M</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>4</td>
<td>34</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>H H-797</td>
<td>M</td>
<td>NIL</td>
<td>PRIMARY</td>
<td>2</td>
<td>45</td>
<td>MUSLIM</td>
</tr>
<tr>
<td>H H-813</td>
<td>M</td>
<td>MOTORBIKE</td>
<td>SECONDARY</td>
<td>5</td>
<td>38</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>H H-833</td>
<td>F</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>5</td>
<td>34</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>H H-837</td>
<td>M</td>
<td>BICYCLE</td>
<td>NIL</td>
<td>1</td>
<td>32</td>
<td>MUSLIM</td>
</tr>
<tr>
<td>H H-861</td>
<td>F</td>
<td>NIL</td>
<td>SECONDARY</td>
<td>5</td>
<td>36</td>
<td>CHRISTIAN</td>
</tr>
<tr>
<td>H H-959</td>
<td>F</td>
<td>NIL</td>
<td>NIL</td>
<td>4</td>
<td>35</td>
<td>CHRISTIAN</td>
</tr>
</tbody>
</table>
When my husband was farming I always go to the farm to harvest what I will cook in the shop and sometimes I help him with some minor work too. I have done bit of urban farming with him but my interest has always been in the restaurant business - NDH-1.

This shows that, even though some people may have access to opportunities to participate in urban agriculture, they choose to engage in other activities.

Analysis of these households’ heads shows that six of the respondents are men and four are women. The marital status of this group shows nine married and one is widowed, there are seven Christians and three Muslims in the group and a higher number of households without formal education qualification. I recorded three of households in this group with no form of formal education, one more than the diversified households which is the other group with household heads without formal education. There are six of household heads with senior school certificates and one with a primary school certificate in the group. This group has household heads who are relatively young, I have five household heads that are within the range of 30-40 years old. There are three of the household heads within 41-50 and two of those between 51-60 years old. This led me into analysing their household size and transportation owned.

This group of households have the least and the largest household size in my study and it is associated\(^37\) mostly with the kind of urban job they do. I have four of households with five members, three with four members, the remaining three households have one, two and seven members respectively. Another factor that made these households in this group to have lesser number of members is because they are relatively young. Detailed analysis into members of the household shows they have more relatives than children in the households. Among this group, five of the respondents does not have any form of private transportation, two own a car, two own motorbikes and one own tricycle. They see themselves as self-employed and use their means of transportation owned to work and earn to feed the household. After

\(^{37}\) People in this group sees themselves as their own bosses, they can do their businesses on their own and also can involve others. Size of the household does not really matter unlike in UA households where they depend on household members for shared about, the self-employed businessmen here make do with what they have.
explaining the analysis of the groups studied, I will turn to some of the practices of UA in PHC starting with integrated farming which is mostly practiced by the diversifying households. They do this because they have defined what they want from their engagement with UA but this could be seen among the JSH that have secured land tenure too.

**Analysing Correlations Between Diversification and some variables among the Groups Studied.**

**Figure 29: Showing the relationship between Age and diversification in urban agriculture of Port Harcourt City.**

There is a relationship between age and diversification from the graph shown above. Further analysis shows that older people falls within the category of those diversifying presently and those that have moved out while the much younger population are with just starting or never done.
Figure 30: Showing types of land ownership between just starting and diversifying households

Keys: FS: formal ownership and it is secure; ILI: informal lease and it is insecure; INS: insure land; IOS: informal ownership and it is secure; IRI: informal rent and it is insecure; IS: inherited land and it is secure and LHS: lease hold and it is secure.
Figure 31: Showing land tenure held by the just starting and diversifying households in urban agriculture of Port Harcourt City.

From the chart above, the ten households in the just starting group, six are practicing urban agriculture on an insecure land while four have access to secure land. Among the diversifying households, while five households have access to secure land tenure, the remaining five do not have secure access in my research. While it is evident that access to secure land tenure encourages households to either diversify within or out of urban agriculture in my research, those that have insecure tenure hope for secure access.

5.5 Method of Land Acquisition in UA of PHC

Majority of land used by the informal UA workers in PHC are acquired informally. This is because urban households make use of elements of social relations of urban agriculture framework and tap into informal relations, interactions and networks. I used four farm sites in this study from different areas of the city and their land were acquired differently as well. My research studied farmers in the Rivers State University of
Science and Technology (RUST), Iriebe farm, University of Port Harcourt (Uniport) farm and Rukpokwu farm (Airport road).

Figure 32: Showing location of the four farming sites where urban households in my research practice UA in PHC.

![Map of farming sites](image)

Source: Department of Geography and Environmental Management University of Port Harcourt Nigeria, 2016.

5.5.1 Informal Ownership: The farmers in Rivers State University of Science and Technology (RUST), acquired their land informally through the relationship they had with the former VC of the university. The former VC informedly granted them permission to use the land and farm without any document to specify the duration and terms of use. The farmers are afraid of eviction because the new VC is not very pleased with them farming next door to his official residence and has since stopped the water that the former VC gave them from his residence for irrigation. They have...
kept to their promise to the former VC by not planting any crop that will grow so tall that criminals can hide under or leaving the farm unattended. This is what a respondent who is a farmer in the RUST farm said about how they acquired the land in the university;

JSH-1 said, this whole land (RUST farm) was used for farming but the people were not consistent with it. When he resumed as VC he said he wanted to build his official residence and as you can see the fence there, that’s the VC’s official lodge. The VC informally gave his consent but said whenever the university wants to develop the land they will give us notice. That is how we got this farm land till date and we know since he is no longer here, the new VC might want us out but we should be considered because we are helping ourselves with what we do here.

My interpretation of the quote above is that strong linkages within informal networks, institutions and relations helps people informality to access assets. Although this was a formal setting but the UA worker used her linkages with the VC to gain the right to use of the land and others benefitted from it.

5.5.2 Inherited Land: The inherited land is a system where lands are shared among male members of the family only, because culture and tradition plays a significant role. It is believed that a female child gets married and goes to her husband’s house and there she has unhindered access to her husband’s share of land. The lands here are inherited from parents or shared by family as stated earlier but over the years there have been pressures that the female child should be included but culture and tradition has not let it. Households that don’t have a male child think towards formalising their land title and will it to the female child to save her from harassment of other family members when, and if, the father dies. Similarly, if a single mother or a widow is going to buy a plot of land, she titles it to the male child in the household no matter how young to protect it from the family members too. In Rukpokwu area, where land market has been very informal, there is now a tendency towards formalisation because of the greater Port Harcourt city development and the value of the land escalating.

5.5.3 Formal Ownership: This is a system of land ownership where the owner of such land acquires the land and has a detailed survey plan including a deed of conveyance that stands as bond between the buyer and the seller. In PHC, all the traditional rights of land purchase are done first which includes presentation of goats, drinks and money
to the extended family of the land owner. Once this is done and the documents to the land is dully signed, the buyer can then proceed to the state ministry of land and survey to register the land and the process of formalisation of such land is done. In other cases, there are some of the lands that have been titled, sold by estate developers and banks or third-party agents, they are usually more expensive but most of the work leading to formalisation has been done on them.

5.5.4 Informal Rental: This is a type of land access where the occupant of a land pays yearly rent to the owner of the land and they are bound by an informal agreement. There are cases where the caretakers of some land rent land to some urban farmers without the knowledge of the real owner of the land and when he comes to develop his land the farmers are not consulted. In such cases, the urban farmer loses their crops, time and money which they have invested in their farming activities. There are cases where some of the farmers that have a strong organisation which they are active in will step in and try to recover their money from the person they rented the land from. Whatever the case may be, the farmer is always at the losing end because even if they get their rent back, no one pays for the crops. Informal rental is quick to get but there are a lot of risks involved and verifying the true owner of such land is not easy to the urban farmer.

5.5.5 Informal Lease: In informal lease of Port Harcourt city urban agriculture, informal networks and relations play a key role in looking for those that want to lease land out and those that want to take lease. Households talk to each other, the same way family to family and the informal social organisations too. Once any deal on land is seen then the next phase of identifying interested parties begins the traditional rites are carried out and then the land is transferred to the new owner. In informal land lease, people that are witness to the deal become a reference point if there is any dispute later. People that are in financial difficulty borrow money and use their land as collateral (pledge). Here, those that are in position to give the informal loan tends to exploit the owners of the land knowing fully that they are in urgent need for money. Some of them set a timeline for the owners of the land to pay back the money or forfeit the land on the said date and succeed in taking possession if they renege on the terms. This scenario resonates with the literature of accumulation in livelihood diversification
(Schreiber, 2003; Appeaning Addo, 2010; Poterba, Venti and Wise, 2011), those that have the financial strength take advantage and exploit the less fortunate.

5.5.6 Insecure Land: This is a type of land occupation where an individual or household encroached a piece of land without any legal permission to do so. It might be public or private land. Sometimes these types of land could be the land that have not been in use for a long time. They might include abandoned dump sites, uncompleted hospital or school compounds, sideways of rail or motor ways or under high tension electric installations. These is where the land tenure of majority of just starting households in urban agriculture of PHC fall and such land does not have any quit notice date if the owners want to develop them. Sometimes a farmer can be lucky and finish the farming season without any harassment but some farmers are not that lucky as this moved-out respondent narrated.

I woke up one morning and I saw trucks of cement and other building materials drove into the place where we were farming. The landowner wanted to develop the land he told me about the development that morning and that work was commencing immediately. I had very little time to harvest any crops that were matured, after harvest the construction started and my job changed from the security of the land to the site manager - DOH-2.

This quote reflects just one of the ways people in UA losses access to the farms, crops and are thrown back into vulnerable states.

5.6 Integrated Farming System

The majority of urban agriculture workers in PHC practice mixed farming where farmers uses output from one type of farming system as input to another. Though it is common that mixed cropping is a known farming practice among UA workers in PHC, mixed farming is thought of as providing effective use of the land and providing inputs for others. In this system of farming, a farmer who owns a poultry, fish pond and vegetable farm, tried as much as he could to get majority of input needs from within the farm. In the pictures below, the owner of the farm allocated spaces for the fish pond, the poultry and vegetable gardens accordingly. This explain how in a sustainable farm such as this each of the farming types contributes inputs to the other. For example, waste water from the fish pond irrigates the vegetables which in-turn feed the birds and the birds’ waste are used to feed the fishes sometimes.
Picture 3: Earth pond for fish farming

Author's Own 2015

Picture 4: A make-shift poultry

Author's Own 2015
Farmers feed birds with corn from the farms, use poultry droplets as manure to the crops and when they change water from the ponds, they use it to irrigate the crops too. This interplay within the integrated farming system makes it self-sustained in a way. The usage of compost manure among these farmers is evident as seen in the pictures below and these compost manures helps in the fertility of the soil. This process of the farm feeding itself is one of the major attributes of integrated system of farming and its contribution to the sustainability of urban agriculture in PHC.

**Picture 5: Compost manure applied by a farmer**

![Compost manure applied by a farmer](image-url)

*Author's Own, 2015*
Urban agriculture workers in RUST farm said they buy manure (compost) from the university poultry farm which is five minutes’ walk from them and the prices were relatively low and affordable to them. When the farm management realised the high demand on poultry waste, they increased the price per bag considerably then the farmers started looking elsewhere too. Apart from increasing the prices of the compost manure, the farmers said the management of the farms were not filling the bags as they use to before and they considered it cheating on their part. The urban agriculture workers in the RUST farms go to poultry farms in Eneka, Eagle Island or Elechi in Mile3 to buy poultry droplets and form compost manure with it. They go in groups to buy manure if they are getting it outside the university farm because they consider transportation costs and the price they will get the manure per bag. Therefore, they said it would not be economically wise to hire a truck that carries the manure back to the farm alone, so they agree on a date and each farmer budget the quantity they want and that makes them decide the size of truck to hire. This is what one of the farmers said about the trade-off getting poultry manure far from the farm and getting it from the university farm that is closer.

I usually communicate others to know who is willing to go and buy and have the money to buy and we will all go. Sometimes we buy up to 200 bags and the cost of transportation is fixed so we tend to make maximum use of it. There are some other farms that just need people to come and take the poultry waste
off them and, in such case, we pay the transportation and the people that load them for us - DH-4.

My interpretation of the quote above is that the respondents are expressing how acting collectively in the informal economy (UA) in PHC helps participants to cut down costs and expands their informal networks and linkages.

**Picture 7: Bags of compost manure**

Author's Own, 2015
Picture 8: Showing vegetable (Tallinum triangulare) planted with compost manure and watered

Author's Own, 2015

Picture 9: A makeshift restaurant (Buka)

Author's Own, 2015
Picture 10: An informal mechanic workshop

Author's Own, 2016

Picture 11: Getting Consent from Participants

Author's Own, 2015
Picture 12: Discussing weed control with a respondent in her farm

Author’s Own, 2015

Picture 13: Public health concerns and UA

Author’s Own, 2015
5.7 Sources of Income of Respondents

Respondents in the four focus groups have their source of income mostly from the informal economy. While the moved-out and just-starting households depend solely on inputs from UA, the moved-out and never done UA households have a mix of other urban informal jobs that sustain them. Among the moved-out households, it is evident that UA played key roles in the lives of some of them, they made use of informal networks and channels created by UA to get their new livelihood sources. Off-farm income sources for residents of Rukpokwu area of PHC include, trading and hawking in the traffic, working on construction sites, informal security guards, hair making and other casual labours. Household members take advantage of informal job opportunities that present itself to them to make ends meet in their pursuit of livelihood. These practices are not fixed but change overtime as different season comes with different informal job opportunities so these urban household members adapt too. The
scenario played out among these people is in line with what (Ellis, 2000) says that smallholders are involved in off-farm and non-farm employment.

**Picture 15: Personal Labour harvesting vegetables (Tallinum triangulare).**

![Author's Own, 2016](image15)

**Picture 16: Hired Labour transferring poles to farm. They are used as supports for yams vines which may grow up to 10 meters depending on the varieties.**

![Author's Own, 2016](image16)
Savings or contributions (*Susu*) is common among the urban households involved in informality in Rukpokwu and PHC in general. Here, people come together and form informal groups and contribute certain amount of money and give to each other once a week usually on market days. The idea behind it is that if the money comes in bulk, the receiver can do something tangible with it than when it is kept at home sparingly. There is another type where individuals drop whatever amount they have weekly and it is recorded and saved then at the end of the year everyone get back what they saved. During these periods, there is a committee that oversee the savings, they lend it out to people with interest then at the end of year, those interests are accounted for and used by the whole group. Urban households that are members of such group have the pleasure of being served first if they are in a fix and needed to loan money for any purpose but the percentage of profit is not negotiable. One of the respondents said this about the role of belonging to *Susu*

> When my husband got a job opportunity and we were asked to pay before he can access it, I was not having much money and approached the contribution (*Susu*) group and was given a loan with small interest. I accepted it and gave it to my husband and today he is working there and we have finished paying the debt –NDH-1.

What this quote means for me is that the respondent is expressing her views on how strong linkages within the informal networks in PHC can help when members are in need.

Urban households who are facing precarious situations (hunger and unemployment) for engaging in their livelihood choices look up to potential benefits (land, extra finance and family business) that are available when engaging with UA. In the global south, hunger is a key driver encouraging people to practice UA (Crush, Frayne and Pendleton, 2012) and people are hungry because they are poor and lack purchasing power (Funk and Brown, 2009). Therefore, people turn to UA because of poverty and UA has the potential of reducing the effects of poverty as evident in studies among urban households (Goulden *et al.*, 2013). According to Barrett, Reardon and Webb (2001) once the finance of a household or individual is increased, the purchasing power increases thereby improving their access to basic needs. This is how a
respondent in the diversifying household group summarises the relationship between hunger, poverty and diversification within UA.

When we started with cassava and vegetable farming, we were feeding the house and making little money. This was not supporting us as much as we expected. Then we started the poultry which was in a very small scale. We ate the birds and bred more birds for consumption. Since we were in some financial needs, we started increasing the birds aiming to sell for Christmas. To our surprise the little birds made so much money for us. Therefore, we decided to gradually increase the number of birds and we are making more money from the poultry - DH-1.

My interpretation of the quote above is that the respondent is expressing his view on the role of diversification in addressing hunger and poverty. The urban agriculture worker took his time to plan and expected favourable result and was not disappointed.

The urban households in the global south reinvest most of the money they make on social pressures especially on healthcare, transportation and education of their children (Branch et al., 2010; Satterthwaite, 2011; Godslove and Okonkwo, 2015). These are desirables that are beyond the citizens to provide for themselves and rely heavily on the government to provide them. When the schools are made tuition-free, it encourages those at the bottom of the pyramid to take advantage of them and send their children to acquire formal education. When there is hospital services availability, the citizens take advantage of them and seek for help when their medical conditions plummet.

The income of some of the farmers are affected seriously due to poor storage as most of their harvests that are not sold off in the market are disposed if they cannot be preserved. On the other hand, food sellers known as Buka or Mama-put takes advantage of such situations and price those produce very low and instead of wasting, the UA workers sell at loss. These are evidence of produce storage in the UA of Port Harcourt city Nigeria according to just starting and diversifying households focus groups.
5.8 Access to Extension Services

This has become so difficult for these group of farmers to access. Very few of the farmers that had the opportunity of attending one of the farmer’s day\(^{38}\) programmes sponsored by Shell Petroleum Development Company (SPDC) have this. Among the moved-out households, some of them talked about the School-to-Land programme (1987) by the state government which is not in existence anymore. During their time, there were extension workers from the state’s own Agricultural Development Programme (ADP) and the Ministry of Agriculture that were visiting all the farms on specific days. The Iriebe farm was given much attention according to them because it has a storage tower (silos) for preservation/storage and also processing factory when it was inaugurated in 1987. The programme cannot be seen anymore and the former farmers I spoke to said their farms have been converted to residential areas with high class duplexes which they could not afford to live in. This is in line with what is said about cities and perception of urban land among urban dweller, some people still feel the urban areas are not meant for farming but houses and other urban businesses.

Extension workers were not paid by individual farmers during the time of the School-to-Land programme, they were part of the policy set-up that backed the programme. Urban agriculture workers in PHC currently have a mix of traditional and modern agricultural practice put together in their farming practice. The application of chemicals such as herbicides are done by hired young men who charged the farmers according to the number of cans of the chemical they are applying. They usually agreed on quantity of water to mix with a litre of herbicide and the number 50liters can of water agreed on, determines the price they charge the owner of the farms. When asked if they learnt the application of the chemicals from extension workers, the young man I saw applying the herbicide said the chemical seller told them how to apply them and it has been working. This lack of extension workers’ services in the urban agriculture of Port Harcourt city leads me into the next section.

\(^{38}\) This is a day in the summer (harvest season) set aside by SPDC in Port Harcourt City to appreciate farmers as part of their corporate social responsibility to host communities. Prizes are won and new seedlings showcased including yields and produces from farmers across the state. Extension workers from the Ministry of Agriculture and SPDC take their turn to educate farmers on new techniques and how to apply them.
Traditionally, weed in farms in Port Harcourt City Nigeria is cleared out using local weeding tools and techniques. Weeding hoe, shovel, spade and machete are some of the traditional tools used in weed control and sometimes in farms where the crops are so young, farmers uproot the weeds with their hands. Weed control is done with household labour, shared labour, hired labour and most recently I discovered the use of herbicides in the UA of PHC. The people applying the chemicals complained of nausea, unpleasant odour and red eyes, sometimes they know that it is the chemical that they are exposed to but do not know the adverse effect on their health. They mix these herbicides with water and use a spraying tank on their back and kill weeds in their farms. It is not well used though, most of the urban agriculture workers still prefer the traditional weed control method which is weeding.

Picture 17: Hired labour mixing herbicide without PPE

Author's Own, 2016
Picture 18: Weed control with chemical

Picture 19: Traditional weed control

Author's Own, 2016
The conventional traditional way of weed control, is weeding with hoe or spade but picture 19 shows something different and new. The farmer in the picture said that they discovered that during raining seasons, their vegetable (Tallinum triangulare) and weed growth are the same rate and so devise alternatives to curtail it. They decided to use their composts on the ridges after about a week they then cover it with sharp sand and plant the vegetables. This way allows the waterleaf to grow and take its stands before weeds grow, thereby saving the farmer work time and also keeping free from chemical use. It is purely an individual indigenous knowledge which one of the farmers tried and it is being shared among the farmers now.
5.10 Water Preservation and Irrigation

Picture 21: Vegetables during dry season

Picture 22: Shallow well for water harvesting
The farmers in RUST farm complained of not having access to water and during dry seasons they do experience drought which I witnessed during my fieldwork in Port Harcourt city. Farmers in the RUST farms had access to the university water during the reign of the former vice chancellor (VC) but since the resumption of the new VC, the water sources have been cut off. Farmers then depended on rain water for irrigation and dug shallow wells in their farms to harvest water whenever it rained. Though urban farmers in PHC say they experience rain almost 8 months of the year, the remaining 4 months (November to February) is tough on vegetables. Farmers then have to do extra by getting water to their farms or allow the crops to dry off and replant them when the rain returns. Therefore, rain water is the main source of irrigation to majority of the urban agriculture workers in PHC.

We practiced urban agriculture to feed the households and through our engagement if we have enough to eat then we consider giving to others and selling them in the markets. If we have money to call ourselves comfortable, most of us will not be in this business but because we do not have such purchasing power, we prefer to work and feed our various households – JSHFG

Most of us here started urban agriculture as a gap between our poor economic situations and our households’ food security. During these periods, some of us were more successful than some depending on situations hinging from our various social network access to resources. Some of us continued while others moved into other sectors of the economy but one key factor behind our choice of UA as a livelihood strategy is our poor economic status. We started this process on a small scale and some of us scaled up due to opportunities we took advantage of and today we are not regretting our decisions as we have stepped up from where we were then - DHFG

We were engaging with urban agriculture because it provided us with the opportunity to address our various households’ food security. We did not have what it takes to feed the households and that prompted some of our decisions. Poverty in this part of the world comes in different ways and affects households and individuals differently. Therefore, the conviction that engagement with urban agriculture will feed us prompted us to diversify into it but some of us moved out when we lost access to our lands which happened in different circumstances – DOHFG.

Most of us have the opportunity to engage with the production phase of urban agriculture but we chose not to and the reason behind this is the robust nature
of the informal economy in Port Harcourt and the location of Rukpokwu where we live. It is obvious that majority of us migrated into the city to improve on the standard of life we lived in the rural areas. We chose to do what we are doing because we are convinced it will feed our households and add value to our lives. Poverty and its adjoining inequalities are evident in our cities and households; idleness will not solve our problems so we considered the urban economy of PHC and chose where to invest to feed our households - NDHFG.

My interpretation of the quotes above is that the respondents in the focus groups agreed that poverty is linked to informality in PHC and through their engagement with informality (UA inclusive), they have provided food security for their households.

5.11 Conclusion

This chapter introduced the study area and described the demographic results gotten from the three phases of my research (social survey, in-depth interviews and focus groups). Legal framework on land use planning legislation and environment in Port Harcourt Nigeria was discussed too. It further discussed the context of urban agriculture in Port Harcourt City, Nigeria, by explaining the legal framework on land use planning and regulations that are relevant to urban agriculture practices in the city. It uses the land use plan framework found in the Greater Port Harcourt Master Plan to explain pattern of planning in Nigeria. This led to the phases of land reforms in Nigeria and the Land Use Act 1978. Understanding of these interactions helped the research in the interpretations of the data and explaining other processes that concerns urban agriculture practices in PHC.

The chapter further examines some of the economics and socio-cultural characteristics of the urban households that I sampled in this research. It goes further to explain the types of land tenure operated in the PHC urban agriculture and how urban households navigate to access them. The difficulties in accessing extension workers who educate the farmers on input uses and new products into UA were highlighted. The chapter explained how weed control is done with household labour, shared labour, hired labour and the use of herbicides in the UA of PHC. The next chapter (6) will move further by answering my research question of how do urban households start, diversify within and move out of UA in Port Harcourt city Nigeria.
With this explanation, I will turn to results and answer to my research question in chapter six.
CHAPTER SIX.

Findings and Answers to the Research Question

Introduction

This chapter answers my research question of “how do urban households in Rukpokwu area of Port Harcourt City start, diversify within and move out of the production phase of UA?” Starting UA, diversifying within, moving out and having never done UA are related to the survival strategies of households and potential improvement of standard of living of these households. Through the analysis of the social relations of urban agriculture (sec. 6.1-6.4), I identify how urban households in PHC engage in UA and this happens through the coming together of ranges of factors and because of the nature of UA.

Relating engagement with UA to the context of poverty and informality in PHC, I discovered that motivations and incentives are very personal and household specific. However, these motivations and incentives are shaped by the structural/contextual features of being poor in PHC. For policy-makers then, it is important to consider the structural/contextual features if they want to effectively influence UA uptake. To take a very obvious example, if land security is increased, people tend to diversify more and if legacy of birth (ethnicity identity) is adhered to, all male indigenes are entitled to land which prompt diversification also. Urban households in my research view those precarious situations which they want to leap from and the potential gains they stand to benefit as reasons for engaging with UA. Therefore, a framework explaining how urban households in PHC start, diversify within and move out of UA while some never entered will be explained in this chapter.

This chapter analyses the results of my data by coding results to my social relations of urban agriculture framework to examine patterns and the situation among the four groups I studied. As I emphasised earlier in chapter one, that to answer my research question, I will look at the diversity of urban households engaging with the production phase of urban agriculture in the context of poverty and informal economic activity in
PHC. Therefore, below are the three main focus of this research and what they mean in the context of my engagement with the broader concept of the social network of urban agriculture.

i) Informal economic activity in PHC of which urban agriculture (UA) is an integral part in PHC. This is because the urban households practicing UA do it informally, tapping into various informal arrangements that help shape their livelihoods towards attaining food security.

ii) Poverty: I investigated how urban households in PHC faced with hunger because they lack purchasing power as a result of poverty and difficult economic situations scaffold to secure households’ food security. I did this by researching how the networks in which their activities are embedded are conceptualised, knowing the strength of these informal networks, institutions and relations and how they intertwined.

iii) Urban Agriculture: It created a platform for studying informal activities in the city of Port Harcourt, because no matter what these urban dwellers do, they need food and UA acts as the bridge. I investigated how engagement with UA improves the economic situations of these urban households and making them withstand shocks/vulnerabilities when, and if, they occur. This is done through the understanding of the diversity of the economic activities of these urban households.

Therefore, in this study, urban households faced with economic challenges, engage with UA and other informal activities to address those challenges and feed their households. From data collected from these households in my study, households faced with hunger and lack of purchasing power, start UA and they produce their own food. The desire to feed the households have made poor urban households in cities in the global south engage with UA. The fact that urban households which have been thrown into various precarious situations because of failed policies can fend for their households makes UA a system of provision in the global south. These relationships are shown in the social relations of urban agriculture framework.

The analysis of the social relations framework with the interaction of urban agriculture (chapter 3, fig. 7) brought out the following key issues and they work in different ways when households start, diversify within, and move out of UA. Land is needed to
diversify into UA, land security is desired for diversifying within UA and various factors associated with land can also be the reason for diversifying out of UA in PHC. On the one hand, the legacy of birth-right plays a significant role in urban households’ quest for access to urban natural resources. The legacy of skill/indigenous knowledge and legacy of labour relation encourages diversification into and within UA depending on how an urban household can organise them. Urban households that do not have these skills, indigenous knowledge and labour relations can still engage with UA and securing these factors can encourage diversification within.

The practices of urban agriculture occur within and through the context of poverty and informal economic activities rather than a vacuum. The organisation of markets, inputs, outputs, gains and links to other aspects of the informal economy need to be made to happen through the relationship that people have and the culture and traditions that shape who have access to land resources, and markets. In the remainder of the chapter, I will elaborate these issues within my framework.

Generally, issues in this framework can simultaneously work in different ways at different points in the production phase of UA. The notion of land in social networks is about access, control, value, tenure and security. Households need access to land to start UA, a secured land tenure increases the value of the land and the landowner has more control of it. Issues relating to land intertwine in a very complicated but unique way when understood and addressed with this framework. I therefore start to unpack the components of this framework starting with the notion of land because it is an essential component of the social relations and UA.

**Land**

This section analyses the data from a social relations of land perspective. What emerges is eight different points (nodes) through which engagement with UA is configured from across the experience of four groups. The diagram should initially be read from left to right for the purposes of legibility rather than assuming that this indicates a form of prioritising or precedence. As I will show, issues that are represented in different places in the diagram may assume more or less precedence for respondents.
The figures (33, 34, 35 and 36) which are the elements of my framework are coloured differently and numbered at each node to help readers appreciate its interpretation. The nodes are discussed directly under each of the figures and I have carefully selected colours to show what happens in each box. I used blue for land and tenure, ash colour for gender, green for diversification within, red for diversifying out, brown for never enter and orange/yellow for probable and limited diversification respectively. Also, the boxes are labelled to show what it means to the urban household and their livelihood choices. In further explanation of what happens in the diagram below, each point is referenced by the results in chapter five. Direct quotes are used after the explanations to evidence what respondents said about such interactions.

Each factor in the framework on their own results in a tendency to provide a particular outcome. Although, when taken together with other factors may not have the same result. That is to say, each factor on their own does not explain whether households necessarily end up engaging with UA but a combination of the four elements does. Understanding the interactions between land, legacies, linkages and localities in the social relations of urban agriculture framework explained what happens in figure 7 chapter 3. I begin with land (as space) because all UA needs some access to space in order to be engaged in and from a presentational point of view, it works more together with the notion of localities and perhaps they are the most tangible of the elements in the framework.
Beginning with the “LAND” box on the left, there is a clear distinction to be made between those that have access to land for UA and those that do not. I begin with those that have some access to land and will return to those that do not below. Land (as space) in the form of forest, sea or land is a prerequisite for UA. At this point, land access needs to be considered in terms of gender. Depending on the gender of a family member in relation to land, such is the access they have to secured land tenure. For example, a male member of a family stands a greater chance to inherit his father’s land than a female member who could have temporary access to use and vacate when she marries. This is shown among households who have secure land tenure which are usually inherited and the male respondents dominated (sec 5.4.2 and 5.4.3; table 1 and 2).

Land inheritance as practiced in PHC favours men more than women but on the other hand, when a woman is married, she has unhindered access to her husband’s land. This is supported by DH-7 who inherited her husband’s land after marriage and her views were collaborated by other married female respondents. Therefore, the status
of an individual household member (married or single) and gender of family members (male or female) is extremely important in shaping their access to land.

Node 2, shows the three broad different types of land tenure system that urban households in practicing UA in PHC confront and from the explanation of node one above, affects what happens in nodes (3, 4 and 5). There are three categories identified here, those that have permanent land access which are usually inherited from lineage through culture and traditions. The second category are those that have temporally-defined access to land (this group have the right to use such land but it comes with limited time), the final group here are those that do not have any security in the access to land. They encroach land and use such in their practices of UA and so, their ability to diversify within is hindered as will be discussed in node 5 below.

While there is not an exclusive link between any of the nodes, there is a greater tendency of those with more permanent access to land (node 3) to be associated with households that are diversifying within UA. At a very obvious level, their permanent access to land is one less risk to manage and they can be confident that their different investments will not be jeopardised by arbitrary evictions. This group of urban households usually inherit their land, some also bought theirs and use them for UA to keep the land away from land speculators (Otsuka et al., 2003). Due to the high cost of land in the city and the lack of financing, poor urban households rely on other sources of land access to practice UA. In PHC, when families share lands to households, they tend to decide what they want to use their land for and some of them engage with UA until the value of their land becomes high and they sell it. When they sell their lands, some relocate to more peri-urban areas to invest in other land and continue UA while others diversify into other economic activities that provides food security for their households. Therefore, while secure land tenure encourages diversification within UA, it also facilitates diversification out of UA. DOH-5 said, people that want to buy land will prefer to go for those inherited lands with titles to avoid issues that are associated with third party disputes in land racketeering.

Node 4 are those practicing UA where the security of tenure is defined by particular time period. The households here might have a landlord who wants someone to look after his land until he is ready to develop it and, in most cases, the practices of UA is preferable because it does not only secure the land but also prepares the landscaping.
Such land or agreement to farm on it usually have a start date and vacating date and includes types of UA to be practiced. For example, “land in the inner city will not permit the farmer to plant yam or cassava” in most locations (Ekeleme, Chikoye and Akobundu, 2005) with the assumptions that criminals might hide under their leaves and plan crimes. This does not usually allow the UA workers using such land to diversify within as desired and loses access once the owner start to develop the land. In other similar situations, where the vacating date is longer, then such UA workers diversify but strictly to type of UA that the landlord agrees to. This type of land interaction encourages urban households to diversify out of UA when they lost access to such land till they have another land to use or into other urban informal economic activities.

Node 5, are those that have insecure land and keep on going till something happens to their land and they either diversify out or relocate to find another insecure land. These are households that practice UA on government lands, by the sides of railway tracks, under power cables and unused public lands without permission to do so. They encroach such land mostly without permission from anyone and always risk evictions. In these situations, they usually plant crops that will require little time to mature, they tend not to diversify within urban agriculture. When these households lose access to the land they were practicing UA on which usually come with loss of their crops, they typically relocate to another area to start over again. They understand the risk associated with their choice of engaging with UA and therefore start UA as a last resort to feed their households in the face of hunger and poverty.

Node 6, are those that have permanent secure land access and the right to control the land and diversified out mainly due to demand on their land because of high value of such land. To diversify out of UA in PHC requires not only availability of other economic opportunities but other factors such as when households lose access to the land on which they were practicing UA. Households in this node that have permanent secured tenure because of inheritance lost access to such land when the value increases and demands from developers who approach them increase too, they weigh the options and sell the land. Until they can secure another plot of land, such household are likely to diversify out of UA. The other factors that causes diversification out of UA are those unexpected precarious situations (vulnerabilities and shocks) but
households that have secure land tenure, lease or sell off such land to address the situation they found themselves in and move out of UA.

Node 7 consists of households that have temporal secure access and those with insecure land access, those that “may” diversify within and those with limited diversification (nodes 4 and 5 respectively). These groups of urban households may diversify locations when they lose access to the land they were using for urban agriculture. They may diversify out to other informal economy activities when they cannot find other land to practice UA. Those in node 4 may diversify out due to eviction from the original landlord while those in node 5 are not given any prior notification before their eviction happens. There are also others (female members of a family) that got married and abandoned their land which they had temporal access to and relocate with their husband to either continue UA on his land or diversify into other informal activities. Diversification out of UA for node 4 and 5, which occur in node 7, is for different reasons as explained above.

Node 8, consists of households that never entered into UA and lack of access to land and availability of other opportunities are their major reasons for not engaging with UA. When data from my research is analysed using land as a lens to view why urban households in Port Harcourt City diversify their economic activities into within and out of UA, you will discover that some do not engage in it at all. This is due primarily to lack of access to land which is needed to practice UA production in PHC. Although, there is UA of fishing which requires river access in PHC this research did not include any because I did not find anyone among my social survey. In the group of never-done UA, although there are other informal economic activities in the city, those who want to practice UA production but could not, associated their inability to lack of land access.

Uncertainty in land ownership is therefore a major challenge as most urban households who intend to engage with UA are not given access or restricted to areas and their potentials for expansion are severely curtailed. The first being the traditional/customary tenure system already described and the second being the state tenure system. According to Agarwal (2001), the result of this pluralism is uncertainty and insecurity in land rights, conflicts and marginalisation of vulnerable groups (women and migrants). The Land Use Decree of 1978 unified Nigeria’s land tenure system and vested all land in the state (mainly for agricultural and industrial
development). This represented an attempt by the government to democratisate
landholding systems to protect the rights of all citizens to access and use land as
against the customary land tenure system which made land the exclusive property of
‘landlords’ and families that controlled them. Land ownership, under the decree
required a Certificate of Occupancy from the government and the payment of rent to
the land holding families.

The 1978 Land Use Act (which changed from Decree once assented to in 1978) aimed
at giving individuals access to land. However, the customary tenure system has
persisted, creating a gap between the legal provisions of the Decree and the real
practice of land acquisition and use. In summary, the traditional land tenure system in
Rukpokwu need improvement to benefit women, non-indigenous people in the
community and any urban household desirous of increasing his/her UA plots. This
limitation is not limited to Rukpokwu as the literature is brimming with examples of how
the traditional tenure system limits and restricts UA productivity and why the provisions
of the Land Use Decree of 1978 has been so difficult to actualise (Okechukwu Agwu
and Izunwanne Emeti, 2014).

Eviction comes in different ways in PHC, there are some that the occupants are
entitled to compensation and others without. Therefore, issues related with the tenure
system in Rukpokwu also deals with the issue of compensation for land taken by the
government for development purposes e.g Greater Port Harcourt city (Thecla, 2014).
The Land Use Act makes provision for compensation in such cases but this remains
largely inefficient in Rukpokwu as urban agriculture workers whose farms have been
taken away by the government either receive nothing or negligible compensation.
Additionally, the compensation to farmers is rarely prompt or adequate. Respondents
from the various focus group discussions expressed satisfactions with UA
engagement and complained about problems associated with accessing land in PHC
and when someone does, then the government want the land, little or no
compensation is paid.

Engaging with UA helps put food on our tables but also there are poor people
living under the bridges and no one wishes to live such life. Urban agriculture
provides us with the opportunity to move away from such low life and make
us to be our own bosses. This is just one of the positives of practicing small-scale urban farming but issues of land tenure are problems to us – JSHFG

When the Greater Port Harcourt City Authority started surveying land that they allocated within the project, some of our farm lands were taken. We were asked to fill forms with the ministry and very little was paid to us compared what the price of such land will be. Policies such as this undo the good things that engagement with urban agriculture has given us over the years – DHFG

During the School-2-Land policy days, majority of us had land that was allocated to us in the Iriebe farm and we were using it for our small-scale urban farming. Sometimes in 1999 we started hearing rumour that the government will take the land and in 2000 it happened. We were not compensated and those that had new crops planted lost everything - DOFG.

But the NDHFG have a different view to this and the group said:

Some of us have lived all our lives in the villages and we were into farming until we saved some money and relocated into the city. How can we leave farming in the villages and come to the city and continue farming again? We look up to other opportunities in the city and that was why we relocated from our villages into the city - NDH

Summarily, understanding social relations of UA through the lens of land has informed us that land as a space in the social relations of urban agriculture framework is about access, control, value, tenure and security. Every household attempting to engage with urban agriculture in PHC, need access to land, forest or sea. Once this access is secured, such household is concerned about the tenure such land has and depending on the land tenure, so is its value and security. A secured tenure put the total control of such land in the hand of the owner and such land attracts more value as such the landholder is always in charge during negotiation for sale or lease. Therefore, access to land, guarantee poor urban households’ engagement with UA, a secure land tenure does that also and encourages diversification within and out of UA as explained earlier in the nodes. This is supported by various respondents from the just starting, diversifying and diversified out households below.

Anyone trying to come into urban farming need to consider what they want from it, what they want to plant, who they want to sell to. When they have finished that, the next thing is money, land and how to organise the whole farming activity. Once you start engaging with this activity, there will always be something to fall back on, be it food, money or network you built during your time here. The most important thing to think about is access to land, this
come before tenure but if you have money there will always be opportunities to get land for yourself in the city of PHC – DH-3

Land is so important in the practices of urban agriculture and as you can see, I have so many lands in this place and since I cannot cultivate all, I share them to people and they give me money in return. So, the money they give me for renting those lands has helped me a lot in settling other bills - DH-8

I belonged to a women association in the community and it was from there that I heard about this land that I am planting today. A friend told me and directed me to the lady that is in charge and I approached her. That was how I used my informal contact to get this land (asset). Nobody will take up urban agriculture without considering the importance of land in the list of things the person will put together before even mentioning it. I sincerely think that even if you have all the money and do not have access to land it will be impossible to start UA especially if it is vegetable farming like we are doing here – JSH-5

Once there is land for you to farm, there is always market available to sell you crops. So depending on your motives of joining this business, once you have land and there is peace of mind with regards to the land (tenure) then you will work hard to achieve your aim – JSH-9

My farm was situated in the Eriebe farm and it was a very big plot of land (the government were the title holder for the land) so I have the leverage to plant as many crops as I can do then. I usually practiced mixed cropping which is good for any farmer that want to maximise output on his or her land. I divided my land into segments and allocated them to certain major crop. For example; the place that I am to plant cassava, I will plant the cassava, after few days I will follow up by planting maize and both of them will grow without any hindrance. The simple logic is maize grow quick and after its harvest the stems and leaves then become manure to the cassava. Therefore, nobody can underestimate the importance and significance of land in the practices of urban agriculture – DOH-2

I stopped practicing urban agriculture once I lost access to the land I was using for the business. The demand on our family land was high for real estate development, different people were approaching me for the land which as at then was almost one of the most sort after land. My parents were late, I had a young family and my younger ones were in the universities. I weighed the options and decided to cash in on the land and use the money for other purposes. Although, the money I realised from the sales of the farm land was reinvested into my younger ones education and other family affairs, it is not possible to engage with urban agriculture without land in PHC – DOH-10

When I was in my state and was not having anything doing, I considered engaging with urban agriculture but I could not because of land and finance to start the farm process. Practices of urban agriculture as I understand require more than just starting to plant but organisation which includes land and finances and I was not having them – NDH-8

The family helps people to access land easily in the city especially those that are indigenes. They always share land to the male children and rarely for the
female folks because they believe that the woman will marry out and cannot take the family land to her husband. I am not from here and do not have such leverage to access land and therefore did not consider urban agriculture due to lack of land access – NDH-10

**Legacies**

The notion of legacies talks about institutionalised practices that are embedded in networks. Signifying that the re-emergence of social networks is building pathways for livelihood development in the global south. The successes that have occurred in the informal economy of Port Harcourt did not proceed along a single grand path exhibiting perfection, but along different paths which did not all lead to straightforward success. Urban households still depend on the traditional practices and use cultural methods in their daily engagement with informality and UA. Here, practices embedded in relations, interactions and networks, in form of social organisations are evident. Therefore, the three key legacies in the social network of urban agriculture of Port Harcourt City are legacies of birth (ethnicity identity), skills/indigenous knowledge and labour relations.

Although culture and tradition inhibit the ability or desires of disadvantaged groups (non-indigenes and women) from accessing natural resources (land), it helps to strengthen the informal institutions in Rukpokwu. Women manages the kiosks that sells urban agriculture produces and form the market women association that determines prices of UA produce. These associations are so coordinated that once they decide on any price or informal policy it is implemented across the markets. Views such as this and the ability of woman as members of different households to find something to do in the urban agriculture chain makes it attractive to start, diversify within and out of UA. Therefore, the legacy of birth right (male or female) and informal relations are important in accessing land that enables households engage with UA as expressed below by different respondents.

The issue of gender and power goes beyond the formal and informal sector divide and is rooted in the culture and tradition of our people, in government and places of worship - DH-3.

Single mothers usually use the name of their young male child to buy land. We do this to fend off other family members in a place where women are not
expected to inherit landed properties in their father’s house. The legacy of birth right favours male child more than female and as such we protect our properties by using your son’s name to buy it if you are a single mother like me - JSH-2

 Customs do not allow us to inherit land except we are married and can have our husbands’ land. We are expected to become more member of our husband’s family and when we (women) are married we have all the rights to his share of the land - JSH-6

 Male children inherit family land during the death of their fathers or if the extended family decide to share the family land. The female members of different households are not considered but your father can grant you access to use some of his land and the day you marry, your association with such land ends - DH-5

 Cost of hired labour varies between men and women in the practices of urban agriculture in PHC. Men are paid higher wages than women despite doing the same type of jobs on the farm. Also, men can do all types of jobs on the farm but women are not favoured to engage in all type of UA job and this further hinders equality between men and women - DH-8

 While we do these businesses on the streets including manual jobs, our wives look after the kids at home. We did not retire them home but in this part of the world, it is natural that a man should fend for his family and the women understands that too. Therefore, whatever anyone may say about women playing a supportive role, it is not out of place provided we do not abuse their loyalty - DOH-3

 All the children are given equal opportunities these day, boys and girls are allowed to go to school unlike in our days when women were not given equal opportunity as male children. Maybe someday the same will be applicable in the rights to inherit land between men and women in this community - DOH-4

 If a single mother buys a piece of land, she uses the name of her son on the documents to fight against encroachment in the future by family members. The legacy of birth right is both positive and negative depending on the side of the gender divide we find ourselves but there is nothing we can do about it because it has been the norm. I know this and instead of facing the complications in land access and urban agriculture, I decided to face what I am doing to feed my household. I definitely understand how important land and gender is to those practicing UA and I was not ready to face it - NDH-1

 Customs and traditions of the Rukpokwu people does not allow us to inherit land except we are married and can have our husbands’ land. This seriously hinders some of us from considering engaging with urban agriculture when we relocated to this area, it is very difficult to encroach someone’s land and you will not be called names - NDH7.

 What this means to me is that these respondents are expressing their views on the roles played by gender, culture and tradition in accessing land in my study. They are
expressing the importance of land in the decision to engage with urban agriculture. The role of women as mothers of the home is highlighted and despite knowing “their rights”, they respect the norms that binds their homes.

Figure 34: The Notion of Legacies in the Social Relations of Urban Agriculture Framework

Node 1 is the legacy of birth and this deals directly with the ability to access land and in turn affects the ability to diversify (either within or out). Respondents born into any family in Rukpokwu, depending on their gender, the ability to access or inherit land defers as explained in node 1 of land. Female members of families are given access to use but on a temporal basis while male members are allocated permanent access to land which they are in charge until they have their own household. The male child is the custodian of culture and tradition in Rukpokwu while it is assumed that the female child will marry and move on to her husband’s house to form a new home. Therefore, the legacy of birth right in this area gives more permanent land access to the male children than the female and immigrants.
Node 2 is the legacy of skills/indigenous knowledge and urban households that have this ability which is transferrable from one generation to another are more likely to diversify within UA. Almost everybody can engage with UA with or without more skills but at node 2, if the individual’s skills/knowledge of UA is high, then this support diversifying within. Those that have less skills and less indigenous knowledge, practice UA and may diversify within while learning skills from others since indigenous knowledge is learned and transferrable. For example, JSH-5 learned UA from her sister that is a member of the diversifying household group and she hope to diversify within as she is learning more from her.

Node 3 is the legacy of labour relations (ways of mobilising labour) and as explained earlier in chapter 2, households that have a well organised labour relations diversify with urban agriculture in Port Harcourt City. The term labour in UA of PHC refers to services performed in UA pertaining to on-farm and off-farm, in connection with cultivating the soil, raising or harvesting any agricultural or horticultural commodity. It also includes the raising, shearing, feeding, caring for, training, and management of livestock, bees, poultry, and fur-bearing animals and their marketing. The labour relations in UA of PHC is mostly household centred where members of households take part in the on-farm and off-farm labour associated with the UA they are practicing.

There are specific tasks that the men and women are expected to do on the farm culturally and when the opposite sex is seen doing such, it is assumed a taboo (culturally forbidden). Cutting of the bushes are seen as a man’s job in this part of the country because most of the farmers in the peri-urban areas practice bush fallowing and the bushes are allowed to rest two to three years sometimes. During this period, the bushes grows and become thicker and during cultivation, the men uses machetes to clear them and after some days depending on the season set it alight and planting begins.

Labour relations in UA of PHC tends to be organised informally along ethnic groups and informal organisation (social groups). For example, urban agriculture workers
from the same ethnic group organise their shared labour\textsuperscript{39} and use the opportunity to work on each other’s farm alternately and also eat their local diets which is served by anyone that is hosting the group’s shared labour. This form of collective action is seen as building social cohesion among communities and improves the ability to access inputs through networks. Those that do not have organised labour relations rely on their personal labour to organise their social network of urban agriculture. In most cases, they do not diversify within because of the inability to organise labour but may diversify in rare cases such as when the household have access to financing. In this node, the more organised the labour relation of a household is, the more likely they tend to diversify within UA.

We are working and if you are not healthy, then you look for labour and hire because anyone who works need to feed and the money you pay labourers are what they feed on. Those that do not have money to hire labour, will usually work on their own or wait for their children to return from schools and they work collectively on the farm or sometimes depend of shared labour – JSH-1

Shared labour is a process where farmers including casual labours come together in groups from two to any number and decide to work together on each other’s farm alternately. For example, if we are two we will work in one’s farm today and tomorrow on the other’s farm. If any of the group member does not have enough work on the farm to take the group to, he or she can negotiate with another person that is willing to pay for their services and the group will be used to work for the person. In shared labour, the owner of the farm provides food and water, drinks can be a complement. Once one can organize this, it is one of the motivations to engage with urban agriculture - DH-3

The ability to organise labour relations in urban agriculture of PHC is very important and it is one of the things that will either make or break your engagement with UA. For example, there are some people who are farming but you will not see them in their farms any day and there is another group that work on their farm by themselves. The first group are the wealthy people who are farming for commercial purposes, that is to sell what they produce. In cases like this their money farms for them and all they do is to coordinate those factors that aid production in farming. The second group is where I belong, we use our hand and shared labour to work on our farms and if we do not organise this well then, our engagement is in trouble - DH-7

\textsuperscript{39} Shared labour is a process where group of farmers come together and work for each other and if any of them does not have a bigger farm, such can pass the labour to someone and collect money after the day’s job.
When I wanted to start urban agriculture, my Aunty I was living with then advised me to start thinking of those I can form working group with. I did not understand the importance of it initially until the weed in my farm was beyond me and I wanted more hands. Labour in urban agriculture is important as well as land and those who can organise it does well during harvest - JSH-10.

My interpretation of the quote above is that the respondent understands the role labour relations as a feature of UA plays in the decision of households to diversify into it. Households that have an organised labour relation tends to diversify within UA and those without such labour relation find it more difficult to diversify within.

Picture 23: Child working in UA

Author's Own, 2016
As said in previous chapters of this thesis, there are various ways labour relations plays out in the UA of PHC in respect to the role of male and female culture and tradition. Urban households make use of their household’s labour (husband, children
and relatives) that make up that household to work on their UA. Households that do not have the capacity within their household to work alone on their farms, resort to either the use of hired/shared labour. While shared labour is usually formed from an informal group which any member of the household belongs, hired labour can be gotten from young or old casual urban workers. The most important thing about hired labour is their wages at the end of the daily work while shared labour is the hospitality of the owner of the farm. When a shared labour is taken to someone’s farm as hired labour, the owner of the farm is made to understand that it is shared labour and the way they are cared for prompt others to bring their turn of shared labour to such person subsequently. In UA of PHC, both men and women practice shared labour but though it is not forbidden, hardly can you see a shared labour group that is mixed.

**Picture 25: Household labour locally Processing Garri (a major staple food from cassava plant)**

Author’s Own, 2017
Picture 26: Shared Labour

Author's Own, 2015

Picture 27: Feeding Shared Labour

Author's Own, 2015
Picture 28: Hired Labour planting yam

Author's Own, 2016

Picture 29: Transporting water and chemical by a hired labour

Author's Own, 2016
Node 4 is gender and it played a key role in the ability of households’ member access to urban livelihood dependent natural resources (ULDNR) such as land, forests and rivers in this research. As I have explained in chapter three of this thesis, the legacy of birth right into a community such as Rukpokwu does not guarantee automatic access to land but if one is a male it does. Depending on one’s gender, the level of access to natural resources differs and that affects how such individual households engage with the production processes of urban agriculture in PHC.

Node 5 is access to land and as I have explained through the various nodes above, the more secure your land tenure is, the more you tend to diversify within. The ability of urban agriculture workers to diversify out of UA of PHC is not entirely due to forced evictions. Urban households that have secured tenure on urban land tends to sell off their land when the land value increased and the demand on such land is high. They sell it and move out or move to another location and continue practices of UA. For the female members and immigrants that have temporal or insecure tenure, they lose access to such land for various reasons ranging from marriage, eviction, relocation and other environmental factors (as discussed in sections under land).

Node 6 is the ability to diversify and it may be sure diversification in the case of those that have the skills/indigenous knowledge and better labour relations. For those that do not have either of them in abundance, their ability to diversify within is limited. Both categories still rely on access to land to practice UA and depending on the legacy of birth as explained in node 1 above, their access differs. A man that is born in Rukpokwu and have high skills/indigenous knowledge, a better labour relation will highly diversify within UA because he will have permanent access to land through the inheritance tenure. Therefore, legacy of birth (man or woman) shapes their access to land, legacies of skills and labour influence their diversification capacities.

Node 7 are urban households that never diversified into urban agriculture at the time of doing this research. Looking at analysis of my data from the legacies of birth, labour relations and skills/indigenous knowledge lens, they did not diversify in for various reasons. Some of the male members of families (birth right or ethnicity identity) got their share of land and sold them and used the proceeds to do other things outside UA production. There are those that acquired other skills in craft making, thatch, net,
beads, dress, hair braiding (indigenous knowledge) and as such do not engage with UA production. There are those who could not organise or mobilise their labour relation and as such could not engage with UA. Therefore, other opportunities that presented themselves to these urban households because of institutional practices that are embedded in their networks, encourage them to find alternatives to UA.

Summarily, the notion of legacies in the social relations of urban agriculture framework explained how the institutional practices embedded in the informal network is building pathways for urban households' livelihood. Access to land (either for use or to inherit) is tied to legacy of birth right (ethnicity identity). Depending on the gender of a family member such is the level of access to land they have and land inheritance which is the most secured land tenure, favours the male members of the family. The female can have access to use land as a family member but cannot inherit it but when they are married, they have control over the land of their husbands. Legacies of skills/indigenous knowledge and labour relation combine with secure land tenure to enhance urban households' ability to diversify within UA of PHC. Therefore, although almost everyone can engage with UA, households that have better legacies of birth right, labour relations, skills/indigenous knowledge tends to diversify within UA more.

**Linkages**

The notion of linkages deals with the diversity of network strategies restructured in response to changing circumstances (pressure or opportunities). It is about how urban households attempt to recombine resources especially by reorganising the networks that link individuals and networks within and across localities and economic spheres. In PHC, urban households start, diversify within, move out of UA and some do not enter at all due to access to land, informal market and financing opportunities in the city. In this framework, linkages play a pivotal role in the decisions of urban households to change their economic trajectories towards achieving food security. This enables urban households to carry on developing new networks with their existing ones and such networks aid in their desire to build on assets and have access to urban natural resources and informal job opportunities.
Node 1, deals with linkages (discussed in chapter three) that the practices of urban agriculture need to succeed in Port Harcourt City. The social network of UA might not be readily available for urban households willing to engage with it and thus the more targeted their linkages, the better they succeed. At node 1, urban household that have a strong link to the market (where to buy seedlings, chicks, stems; where to buy fertiliser/compost and where to sell their produce). This is important when considering diversifying within UA. Urban households with a strong link to inputs (land, water, seeds) and outputs (markets, profits, farm protection) tends to diversify within UA than those with lesser linkages. The linkages to other aspect of informal economy is another factor that make urban households in PHC to diversify within UA. Here they can buy inputs on credit, get a trade off with a tricycle (keke) driver that will carry their produce home or market and exchange crops for his services. A member of the JSH said she weighs the gains, others UA workers have through the practices of urban agriculture, and was motivated to engage with UA of PHC.
Node 2, is showing us the interactions between engagement with UA with ability to develop and form linkages in the urban agriculture of Port Harcourt City. Although urban households can engage with UA, it is more likely to be those with targeted linkages that can diversify within and be successful because they need those linkages to organise UA. As I have explained earlier in chapter two and three, urban households keep up with their linkages to the rural areas building on the rural-urban linkages to have inputs and return remittances to the rural areas. The linkages between formal and informal firms are maintained to access inputs (chemicals, money transfers) which the urban agriculture workers need to attend to their farm and family needs (Arowosegbe, 2016). Therefore, a strong linkage to the social network of UA in node 1 is needed to engage with UA but households with lesser linkages can still can engage with UA and build its linkages as the practices grows. The ability to diversify out of urban agriculture which is discussed in node 3, is linked also to the interactions in node 1 above or failure to sustain linkages.

Node 3 is the point where urban households in my study move out of urban agriculture and it is usually for various reasons linked to better or poor linkages to elements in node 1. An urban household that has very strong linkages with other aspects of the informal economy does not find it difficult to find a buyer if he decides to sell off his land. To diversify into another aspect of the informal economy in PHC, urban households still uses strong linkages to these other elements to build their networks. Urban households that have less linkages loses their land or supply chains and thus find it difficult to continue UA practices. The loss of their assets results from situations where they cannot find someone to vouch for them in case of dispute over such asset. Therefore, depending on how coordinated or not the linkages these households have with the elements in node 1 above, their ability to move out of UA hinges on those linkages for better or best outcomes.

Node 4, are households that never engaged with UA production from the onset but are still part of the informal economy in PHC and their demography is explained in chapter 5 of this report. They still have strong linkages with the rural areas and outside the state for supplies of some of the goods and services they offer to the Port Harcourt City market. Their decision not to diversify into UA is personal and different opportunities that presented itself outside the UA production not neglecting inability to
access urban land. This group make use of existing networks and build new ones as their businesses expands and this opens other opportunities for them to tap into within the informal economy in PHC. Although land is a prerequisite for UA production in this research, but the choice of not diversifying into UA by this group is personal and opportunities that presented themselves outside UA created by social network and legacy of linkages. Therefore, some of the households that have permanent access to land (inheritance) might sell their land out and diversify into other informal economy or lease their land out and survive on the rent and all these happens within the context of the social relations.

### 6.3.1 Social Relations of Urban Agriculture

In figure 7, in chapter three of this thesis, I explained that households diversifying their economic situations to address challenges they face in their livelihood portfolio, work through informal relations, networks and institutions to address such situation. This social relations shapes the engagement with the features of UA. The engagement of households with, within and out of informal UA enables them to respond to the situation that prompted the diversification of their livelihood choices. These informal relations, networks, and institutions influence (condition/enable/restrict) a household’s engagement with the characteristics of UA.

The study of informality especially in Nigeria has seen a paradigm shift from the conventional formal/informal continuum and social network has proved useful in the analysis of the unofficial economic organisations. This shift is precipitated by the evidence that continuum of formal/informal is thus not a useful distinction since illegal practices are also practiced in the formal sector (Meagher, 2005; Hart, 2008). The so-called informal economy operates in a well established hierarchies and social life is fully integrated with it in developing countries (Sparks and Barnett, 2010 and Verick, 2012). The widespread informality in Africa is an embedded phenomenon in an environment where local institutions, relations and networks are still being controlled by local cultures/traditions. This social relations (informal relations, networks and institutions) then govern the interactions of informality and the actors.
6.3.2 Informal Relations

Faced with the pressure of unemployment, urbanisation and food insecurity, informality in Nigeria and PHC have drawn on personal ties and associational strategies to build their networks. There is a high rate of apprenticeship schemes in this sector of the Nigerian economy, where relatives are trained to acquire skills that are transferrable (Meagher, 2005). Informal organisations (social clubs, community associations, religious groups) are some of the sources where social networks are built from and these informal relations have a strong ties binding on its members (Lwoga, Ngulube and Stilwell, 2010). Typically, agreements or recommendations that develop or emanate from this type of informal relations are respected and are supported formally by the customary law of Nigeria. Informal relationships in the Rukpokwu area of Port Harcourt City have helped urban households secure land for UA, get an apprenticeship place for their children, have more business partners and gain access to credit.

Since I moved into Rukpokwu, I have met people from different ethnic groups and I do not judge them neither do they judge me. We share business ideas together and belong to different social groups including the susu in the market. Such relationship enables us to support each other when needs arises – NDH-3

Religion and the meaning/belief people place on it in Nigeria is another area that has somehow created a stable social life for people in the urban cities. The siting of churches and mosque in the cities has provided an avenue for people to socialise. So that has improved the quality of life greatly. If a person comes to the city for the first time and have no family, it is easier to join a Mosque or a Church and you will find likeminded people of the same age group and you form good friendships and take it from there. So, the proliferation of religious bodies has helped in improving quality of lives in Nigerian cities - NDH-8

Our social club is an informal group set up to assist each other when we are in needs and needed someone to reach out to us. I have been tapping into this network when I need help too; when I wanted to plant my yam, it was members of this group that helped me to dig the holes while my wife and her friends did the female aspect of the planting - JSH-3

During the political campaigns, my party donated fertilizers to farmers and I have to buy from other that didn’t have use for it at a reduced price. I have been reselling them to others that want to buy too and I am making some profit. Seeds are shared, bought or the former ones are replanted but basically networks help us get free seeds. We do our personal and group shared labour. We can work in other’s farm and they pay us then we use the money to hire
other workers to do any work that we can’t do (cutting of bush). The labour relation in urban farming of PHC is so dense - JSH-8

So many opportunities have opened for me through the informal networks, in the church, farms or within the university where I work part-time. I usually go to the church every Sunday and sometimes, weekly activities but I am not regular anymore. The place we are farming is waterlogged and as such weed grows quite often. Sincerely, I spend much time on my farms than any other place these days. As for the friend I have now, it is my family and my crops and those that share the same ideas with me. Going to someone’s house to sit down and discuss will not feed me so that is not part of my plans no more. I do not play with the casual work I earn money from monthly too because I believe one day the management of the university will give me appointment letter that make a pensionable staff - DH-4

When I took over the farm I brought in paid labours that were helping in doing much of the on-farm work and they were people I know through different informal networks, some through my parents and other I discovered on my own. My major contribution was to coordinate these labour together through organising work (planting, weeding, chemical application and harvesting). We thank God for the type of season we have in PHC it rained almost all through the year except few months so we don’t pay for irrigation. From my parent days to mine, we could provide food for the household, employ some people informally and make some money too to cater for other household needs. Therefore, practicing urban farming added value to the life of my household - DH-9

The two men that work with us in our workshop can attest to this, that urban informality acts as a shock absorber in trying times. When they came approaching us for job, they did not have where to live and not even sure of the next meal but today they can tell you their stories. Informality has provided us with food, informal employment and money to foot other bills and it does this through different networks we connect together – NDH- 5

Urban informal economy provides casual jobs for urban poor people that do not have any chance of working in the formal sector because those jobs are either not readily available or they do not have the qualifications. They come into our group and if we have any daily job for them they do and have some money to buy food and that saves lives. Urban informal networks therefore stand between new entrants into the city as a platform to feed and settle in gradually - NDH-1

What this means is that respondents are expressing their views about the role of informal relations in supporting urban households. These informal relations are built by the households from different places within the city (churches, mosques, markets, schools, work places and streets). The legacies of linkages which deals with divergent of networks restructured to respond to changing circumstances, recombine urban households’ resources across networks and localities.
Informal relations that start in the church are always resolved among members in times of dispute and when it seems difficult the pastor or imam in the case of Islam are called in. In the family, the most elderly member of the family and representatives from other households that make up such a family makes decisions. Informal relations that developed in business places (markets, farms, workshops, abattoirs and motor parks) involves financial transactions most times and guarantors are requested as a form of collateral (Carney, Great Britain. Department for International Development. and Great Britain. Dept. for International Development., 1998; Lemanski, 2011). In PHC, urban households in informality cherish the relationships they have built knowing what they stand to achieve with such when the needs arise. An urban agriculture worker household that seek an apprenticeship place for a member from a road side mechanic, rely on these informal relations and the person’s place is guaranteed.

When the sanitation authority complained about the state of my shop and demanded renovation, I was not having much money saved and I approached the Susu. Although it was not yet my turn but the executives considered the urgency of my request and the fact that I have been consistent, I was giving a loan with small interest. This is what informal relation offers in informality and it is quite different when compared to processes in the formal banks – DH-1.

We all support each other in this business we are doing, especially when it comes to helping hands. Sometimes things might go too tough on you and the next person you can turn to is the person that share boundary with you in the farm, market or home. The relationship we build in this activity we do is more cordial than some relationship we have in the family most especially the extended ones or those from a polygamous homes - DH-8

On so many occasions when I have been stranded relationship I have developed within my little time of joining the farmers union has helped. One of such was when my younger brother was arrested to the police station and I did not know what to do but talking to one of the elders in the union was my saviour. He picked up his phone and called someone at the police station and gave them my name then asked me to go and when I got there, I was asked to sign the bail form and my brother was released - JSH-4

I joined the hospitality unit of the church as a volunteer and I have been working there for some months, then one day the pastor made an announcement during workers’ meeting. He said that a brother who owns a land well secured wanted someone to use it for urban agriculture and when he wants it back he will notify the person a year ahead. I indicated interest and that was how I got the land I am using for UA - JSH-7

I have had series of experiences during my time of engaging with urban agriculture that I look back to and smiled. One of the high point was when my son got admission into the university, I needed some money for his clearance
and tuition but it was difficult for me to raise it from my savings alone. I approached the informal saving group in the market and the Iriebe farmers’ union, both of them responded positively and today I have a son who is a lecturer - DOH-3

I met the woman I married from the days of School-2-Land during my engagement with urban agriculture and she always come to the farm and buy vegetables with the mother. When I saved some money, I approached the parents and I was given permission to talk to her and she accepted me. The networks we developed during these periods are still useful to some of us that maintained them till today - DOH-2

My parents registered me with another of my ethnic man that owns a mechanic workshop to learn the skill some years ago. I practically lived with the man’s family and became part of them until I graduated and worked for him for about two years then opened my own workshop. When I was moving to mine, some of his customers which have trusted me with their cars started repairing their cars in my workshop - NDH-6

When I opened my school, all I did was to announce in our village group meeting that I will be starting a kindergarten and told the pastor of my local church too. Because of my involvement in community activities and the church, it was easier for people to know me and that helped to advertise my school to grow. Without those informal networks it would not have been possible for me to achieve that and these are the benefits of informal relations - NDH-8

What this means for me is that the respondents are expressing their views on how import informal networks can be in informality. Accessing loans from informal saving schemes are easily accessible once one has a good linkage within the network. The same is applicable when any of them need someone to sign as guarantor or intervene in situations they are hooked in. the importance of informal relations and network is what binds the urban poor engaging with informality together.

6.3.3 Informal Networks

There are so many informal networks such as the case of informal relations that develop within informality in cities of the global south, and in PHC, these networks are regulated by informal institutions. These networks are not always beneficial to all at the same level and shows tendency of what researchers refer to as push and pull (Bigsten, 1996) and accumulation and survival (Meagher, 2006; McMichael, 2012). For example, households that have land and want to borrow money for other household needs use their land as collateral and most times the lender takes advantage of such situation and exploit the owner (survival and accumulation). This
has increased the imbalance among operators or actors in the informal economy of PHC. Families and households still rely on these types of informal networks to make ends meet in their economic situations and it is one of the reasons why they engage with, diversify within and move out of UA in PHC.

Similarly, there are those households that are already established in the informal lending business, they decide the terms attached to loans and condition of payments including what happens to the collateral when deadlines are not met. These types of households protect their businesses and do not make it easier for others to come into their ranks while those that are seeing the benefits are always trying to come in (push and pull). Both of these scenarios (survival and accumulation) and (push and pull) are common practices in the informality of the global south and evident in the urban agriculture of Port Harcourt City.

Engaging with informality in PHC needs networks to thrive and these networks are harnessed and cultivated by the actors from within their immediate and broader environment. When an urban household migrates from the rural area or another city into the Rukpokwu area of PHC, such a household does not abandon the informal networks they have but rather they build on them. NDH-5 said younger migrants are given recommendations by their fathers or older family members directing them to who to meet in the cities and such cases are treated with utmost regards. This part of informal network in the social relations gives direction and sense of belonging to such new urban dwellers and encourages social inclusion among informality workers. Relocation comes with the creation of new social identities borne out of new relationships and experiences and this allows for transfer of knowledge and skills between the indigenous and migrant households.

In summary, the notion of linkages explained how diverse networks are restructured in response to changing circumstances. The nodes in this notion explained how people seek for livelihood opportunities from diverse places, making use of the linkages they build during the processes. To engage with UA, urban household uses diverse linkages that connects them to sources of the social network of UA (inputs, outputs and markets). These networks develop informally and combine with interactions and relations to enable access to the broader local institutions they are embedded in.
Localities

The notion of localities refers to how the organisational capacities of networks are shaped by the local fabrics of institutions in which they are embedded. Later in section 6.5 of this thesis, I will emphasise that in Rukpokwu, there are institutions that govern the local economy of the area and they are all informally constituted. From the Chiefs and elders, the community development committee to the vigilante group, every local informal institution in the community plays its role to attract people here. In this research, globalisation does not replace the properties of localisation but it makes them more significant. The processes that drive urban agriculture practices does not solely depend on global factors but are grassroots driven and are complemented by a desire for knowledge. I have explained in chapter four why I chose Rukpokwu area of PHC as my case study site and this is one of the answers why urban households in PHC start, diversify within, move out of UA while other do not engage with UA at all. I will then proceed to explain how the notion of localities encourages urban households’ choice to diversify their economic activities in PHC across the five nodes in my framework below.
Figure 36: The Notion of Localities in the Social Relations of Urban Agriculture Framework

Node 1, this is the group that diversified into UA and they believe everyone in the city have the fundamental human right to live, work and benefit from the city’s economy. In this area of PHC, there are still open spaces and unused land that people encroach for farming along the ever-busy airport road and the greater Port Harcourt City development area. This area sits between the old city and the new proposed city and as such offer opportunities not only in UA but construction and marketing along the roads. The good road network from the airport into the old city is another incentive to people living here and working in the inner city as seen among RUST, Iriebe, and Uniport UA workers. This locality offers varieties of opportunities in and out of UA, it helps answer my research question of why urban households in PHC starts, diversify within and move out of UA. They diversify because of the various opportunities provided by the location of Rukpokwu as explained above while others do not diversify because of other opportunities too. The closer an urban household in this group are to the informal institutions embedded in the culture and tradition ruling the area the more they have access to the social network of UA.
Node 2, this is the group that do not have access to the informal institutions in Rukpokwu and thus, access to inputs are not easy to come by. This group of urban households diversify into UA but they hardly diversify within because of lack of the social network of UA which they cannot organise without close ties to the informal institutions. Their ability to diversify within is limited and thus most of them end up not being successful in their practice and move up to node 4 due to various reasons linked to lack of access to informal institution in which their practices are housed.

Node 3, are urban households that are diversifying within urban agriculture in Port Harcourt City. This group have strong ties with the different organs of the informal institution that governs the local economy of Rukpokwu. From the Council of Chiefs and elders that have the sole right to adjudicate on civil matters including admitting immigrants into the community. The Community Development Committee that oversees development plans of the area including allocation of communal land to those that the chiefs deem worthy for such. The women organisation group that oversees women’s integration and counselling to the youths and vigilante group that oversee the local security of the area. Stronger ties to these arms of the local governance of the area provides people with ample opportunities that makes them succeed in their chosen career in relation to access to assets.

Node 4, is the group of urban households that have diversified out of urban agriculture in PHC. The notion of localities in respect to this group explains two things, the first is that PHC is growing in terms of population and development and as such land value is on the increase. The development of the greater PHC close to Rukpokwu has only added more pressure on the demand for choice lands and urban households are faced with the dilemma of selling their land or keep up with UA. The majority of the households who sold their lands took advantage of the increase in the price of land in the area and relocated to a more peri-urban area to buy land and continue with other livelihood choices. Land and the notion of localities intertwine in this area to support the choice of urban households to diversify their economic activities out of urban agriculture of Port Harcourt City. Therefore, since the natural resources that form parts of the social network of urban agriculture are governed by the local informal institutions, stronger ties to them helps those diversifying out to reintegrate.

Node 5, is the group of urban households not involved in the production phase of
urban agriculture in the city of Port Harcourt Nigeria. The choice of not diversifying into UA in PHC is largely attributed to the availability of other livelihood opportunities offered by this locality including the institutional fabrics that they are embedded. The production phase or urban agriculture involves the active work on the farms and most of the respondents in this group reportedly said they cannot migrate from the village where they were farming and come into the city to start farming again. Therefore, they take advantage of the ever-busy airport road, Rukpokwu international market or lock-up shops and kiosks to sell food and retail goods or go into other informal businesses. The building of infrastructures in the GPHC (the new city) offers thousands of informal jobs in the construction industries and it is an attraction for urban households into this area of the city too. Therefore, the ability not to diversify into UA in PHC did not only have to do with non-availability of land but how close one can be with the informal institutions that governs the area which opens other opportunities.

The land market in Rukpokwu, PHC favours the indigenes more than non-indigenes. Indigenes can access land easily in this city than non-indigenes, they know the area very well and the ones that are always around know who owns which land. Families and households exchange land between each other too and that is an advantage for the indigenes only.

Although access to land in this community is difficult for immigrants and other disadvantaged groups, becoming a committed member of one of the social clubs or religious bodies helps. Most of us in this group got the land we are using to practice urban agriculture today through different informal networks in this community. People will recommend you or entrust their land in your care if they know you and understand how you behave among such organisation.

Informal networks develop in different places within any locality and here in Rukpokwu helps us in every way we need assistance to access inputs and also during sales. People speak to each other informally on your behalf and that is the best form of advert in this part of the world. When we expand our social networks, it enables us to reach out to different groups and thereby setting the path for us to thrive in our occupation.

What this means for me is that these groups are expressing the benefit of informal networks and how expanding them makes access to land easier. The more linkages people in the informal economy builds the more they are able to organise their social network of urban agriculture in PHC.
6.4.1 The Efficient Management of Resources by Urban agriculture in Port Harcourt City.

The Efficient Management of Soil

Traditional land preparation methods for production include: slashing and burning the bushes (Quansah et al., 2001), and hand hoeing and harrowing (Osman et al., 2013). These methods are used in the farms from clearing the bushes to open-up the soil surface for seed sowing and growing of crops. Traditionally, these urban farmers use these traditional farm implements during tillage and they have little effect on the biochemical properties of the soil thereby preserving the soil components (Akinyemi, Akinpelu and Olaleye, 2003). During harrowing and ploughing with their implements, the urban farmers are facilitating root penetration for seeds sown to enable germination and easy sprouting of crops. Depending on the type of soil, some places where land is not tilled and the soil is not loamy, farmers complained of low yields as this urban farmers put it.

We understand that the earth worms and other organic matters in the soil help our crops to do well so we respect that. As you can see all our farm tools are locally made and they don’t have much impact on the soil, we don’t use chemicals in our farms. We plant here in a way that respects the land and the consumers and that’s why we have more of the lecturers coming to the farm to buy from us - DH-10.

The ways we practice urban agriculture in this part of the country is what makes it friendlier to the environment. We uses locally made tools and depend of compost manure for soil nutrients and these practices has helped us to achieve the relative success we have seen in our engagement - JSH-9

When I was farming, I understand when to weed my farms especially during the dry season, spreading the weeds in the farm allows sun to heat them and when they dry up and decompose into manure for the crops. Within this period, because of the presence of these dry weeds, it is difficult for new ones to grow and this is one of the ways we control weed in urban agriculture of PHC - DOH-8.

My interpretation of the quote above is that these respondents are expressing their views on how sustainable practices of UA is in PHC, making use of low inputs and producing organic foods.
Depending on the type of soil, location of the land (urban or peri-urban) different types of land preparations are employed in the planting different crops. Meanwhile, a study by Akinyemi, Akinpelu and Olaleye (2003) revealed that no-tillage produced taller plants and higher grain yield compared with disc ploughing followed by disc harrowing although the differences were not significant. No-tillage means less traffic, and in turn, less soil compaction, lower fuel and labour costs. It is also said that no-tillage has many other advantages which include; controlling wind and water erosion, reducing soil moisture loss and greenhouse gas (carbon dioxide) emissions (Plaza et al., 2011).

In my research, the height of crops and its yielding capacity were said to depend on the variety of the crop, the land and season the crops are planted. Urban agriculture workers in Port Harcourt city depend on indigenous knowledge which is learnt from parents and transferred from one generation to another.

Urban agriculture in PHC is practiced using land that is why land plays a key role in the decision-making process of these households when they think of diversification. They have different type of farming methods that help add more nutrients to the soil which consist of mixed cropping, crop rotation, shifting cultivation and composting. The urban farmers thus avoid use of high machines that will vibrate the soil and make use of low input farm implements. Though there is evidence of agrochemical use among the urban agriculture workers, it is minimal compared to mechanised farmers. This is how the UA workers explained the choice of soil and how it is taken care of traditionally in UA of PHC.

Without land, farming cannot be done especially when it is planting of crops that you will plough the soil as we are doing. The lands are sometimes over used by us because it is the only one we are using to farm year in and out. The way to get it to produce at its best is to feed the land back by applying compost as we have been doing - JSHFG.

When we want to farm, we look out for land with the best form of soil which is usually the black soil (loamy), it contains all the nutrients we need for our crops. This type of soil is always fertile and don’t need external inputs including water and compost, land with such soil are always in demand - DHFG

During our time with urban agriculture, if there is one thing we considered seriously before accepting land is the quality and that determines the type of crops to be planted. While some people were using chemical fertilizers to increase their yields, some of us used compost manure constantly and that helps in regulating the components of the soil and in turn increase our yields during harvest - DOHFG
We know that some farmers will prefer land that are close to their houses but majority will appreciate if the soil of any land they have is in good condition. Such land no matter where they are, farmers are always delighted to have them - NDHFG

What this means for me is that these respondents are telling us how important land as a component of the social relations of urban agriculture framework is in the practices of UA in PHC. Also, the importance of replenishing the soil to add nutrients using composts which are part of the indigenous knowledge system.

Farmers profile their soil and decide which crop to be planted where, they do this through their indigenous knowledge of soil texture and accepted that the knowledge is transferred. The farmers identify types of soil through it colour, texture, experience from previous harvests and use that to profile different soil and farm. Knowledge of soil profiling is always transferred from generation to generation and it is shared among farmers and families.

Urban agriculture farmers in the four farm sites used in this research have adopted different methods of farming based on the soil texture of their farmland. From the figure 8, the location of the of the RUST farm is visible and shows the vegetable farm in an area that is flooded during raining season. The farmers here mostly form beds/ridges for their crops but plots on the edges that the flood would not have quick effect on them plant their crops on plain surfaces. In the University of Port Harcourt farm which is a flat surface devoid of flood threat, urban farmers plant without ridges and the farmers said this saves them time and energy too. The Rukpokwu farms and Iriebe farms have flat topographies without any flooding threat and does not need ridges during planting.

The RUST farms do not fully practice all the aspect of traditional land preparation before planting due to its interaction with the built environment. Farmers are not allowed to burn the bushes with fire, so they resort in weeding and spreading or burying of weeds depending on the season and some of the farmers summarises it thus.
The university authority set certain rules for us before letting us farm here and one of it was that we shouldn’t burn our bushes. This enable the university to prevent possible fire outbreak and reduce risk associated with such practice - JSH-6.

Farming in this university environment has given us the opportunity to improvise means of surviving during difficult moments of the farming seasons. We have learnt new farming techniques here and we have also experimented different ways of applying those things we have learnt to comply with the rules of the university - JSH-7

We consider the people living around us in whatever thing we do here in the RUST farms. Imaging if we decided to disobey any of the rules that got us here, the consequence will be total eviction and that will have grave implications on households’ ability to feed itself - DH-3

Sometimes we look at those that we are supplying vegetables to and how they appreciate what we have been doing and what it will mean to them if we are not here someday. Thoughts such as this makes us to understand why we are here and why we need to respect the rules the authority of the university set for us. All through my stay on this plot of land, I have not paid rent to anyone and I appreciate it but also I understand that I will lose it someday but before then, I will do my best to respect the people and the environment - DH-8

What this means is that practices of UA in PHC considers its effects on the environment in relation to the built environment, which is one of the features of UA. These small-scale urban farmers are appreciative of the university authorities that gave them the opportunity to engage with urban agriculture and in return feed their households.

Other farms that are in the peri-urban areas such as the University of Port Harcourt, Rukpokwu and Iriebe farm which grew organically when the government converted the school-to-land farms into housing site. Iriebe farm farmers migrated further behind the old school-to-land farm and started farming on another government land without permission from the government. Findings revealed that the land was another phase of the school-to-land programme but due to change of government in the state, policies and programmes of the previous government were abandoned.
6.4.2 Land Use Planning, Natural Resources and UA in PHC

The contributions of natural resources (land and sea) to socio-economic well-being of urban households in PHC are neither fully recognised nor incorporated into urban development agendas and processes. This is evident in policies that take away land from the urban farmer participating in the school-2-land projects and converting it to a real estate. There are available edible lands in PHC but there are not laws or bylaws supporting access to land or a buffer zone for “urban agriculture” workers in the city.

Looking at the Land Use Act of 1978 one will think it has come to unify Nigeria’s land tenure system because it vested all land on the state (mainly for agricultural and industrial development). This was an attempt by the government to democratise landholding system to protect the rights of all citizens to access and use land as against the customary land tenure system. The customary system made land the exclusive property of ‘landlords’ and families that controlled them. Therefore, land which was meant to be bonding the people became another clog in wheels of urban households, denying them the ability and opportunity to diversify into and within UA.

Urban agriculture (UA) represents one of the livelihood strategies in cities that require natural resources to serve its purpose to those engaged with it. The lack of adequate recognition of this livelihood strategy (UA) undertaken by the urban households undermines the contributions of these activities to addressing hunger and poverty in cities (Littig and Griessler, 2005; Drechsel and Dongus, 2010; Zimmer, 2010). UA has multiple localised effects on the urban life at various scales, it impacts on the food security and empowerment of individuals, social cohesion and economic benefits at both the city and national levels (Drechsel and Evans, 2010; Crush and Caesar, 2014; Jaeger-Erben, Rücker-John and Schäfer, 2015). Where planning processes and planning exists, they tend to determine the livelihood strategies adopted by the urban households in cities. Although livelihood strategies are built around urban natural resource, land use planning (LUP) impact on the emergence and the contributions of these activities to the households and the city generally.

6.4.3 Informal Institutions

In this part of the world, the associations of informality are known for their lack of
organisational capacity and the tendency of being hijacked by the political actors for their gains (Femi et al., 2015). Leaderships of informal organisations in African countries are said to be more interested in lobbying government agencies for their attention and support than the organisation and the people they represent (Chen, 2005; World Bank, 2007). There is a growing concern that collective organisations under these conditions may not promote popular empowerment as much as vulnerability to capture more powerful forces in the service of political purposes rather than productive agendas (Meagher, 2005; Miller et al., 2014). In Rukpokwu area, most of the institutions and organisations are then decentralised and linked with the formal institutions in a way that they act collectively. This has resulted in the separation of powers between the different institutional clusters that make up the ruling class of the community.

The Council of Chiefs and Elders

This is the most powerful informal institution in terms of policies in the community, it is made up of the King (Eze Ncheche Nchelem XI), other chiefs from different families, representatives of women, youth, religious organisation and non-indigenes. The appointment of Eze (King) is for life and when a new king is crowned, he assumes the title but with a new number higher than the previous king. Matters concerning the development and wellbeing of the community are discussed among members of this council and when there is deadlock on any matter the King takes the final decision. Although, there are still issues bordering on full decentralisation of the institutions that govern the economy of Rukpokwu, the King oversees the activities of all other subgroups. The problem in this area becomes a double taxation by the community and the local government authority (vigilante and sanitation/operational permit fees). These problems affects UA workers as more money is extorted from them where they do not have much but with the help of the council of chiefs and elders, some poor urban households are allocated natural resources to practice UA.

The Community Development Council (CDC)

The Community Development Council (CDC) of Rukpokwu is made up of representatives of the King and other organs of the community hierarchy. The CDC is
saddled with the responsibility of developing the community, appropriating and allocating trends to developmental projects to be sited in the community. They also manage the allocation of land and funds that are accrued from the taxes that are enforced by the youth council and the vigilante. The CDC chairman’s position is for four years and is appointed by the King but ratified and confirmed by the council of chiefs and elders. This shows the level of democracy and institutional organisation that operate in this informal setup with respect for the rules that governs them. The CDC tax any new developer through what is called development levy and electricity connectivity fee when you want to develop any plot in Rukpokwu and save these funds in a formal bank.

The Women Development Organisation

The Women Development Group is an umbrella of all the women groups in the community, headed by a loyalist nominated and supported by the King’s wife. The women I spoke to informally told me that they go into voting for a woman leader but anyone the Lolo (Queen) supports will always win. They (women development group) advocates for women’s rights and encourages women to act collectively and supports their households through their various economic activities. From the market women, to the women groups in the churches and various social groups in the community, women engagement in community affairs are canvassed and championed by this group. They support less advantaged women in the community to diversify their economic activities into, within and out of UA in order to respond to their present situation. The most important task of the women development group is to counsel/reintegrate women into the community when there is any civil matters in households.

The Youth Council and Vigilante Group

This is the security unit of the community, set up to respond to security challenges the community face (usually robbery and kidnapping). Modelled like what is obtainable in Aba where (Meagher, 2005) named the Bakassi Boys Vigilante Group. They are the civil initiative which is responding to the security of the community where the formal sector (Nigerian Police Force) has failed to do so. They are made up of youths from
the community (both indigenes and non-indigenes), focusing on those that don’t have employment at the time but employed youths participate during weekends too. The chairman of the Vigilante group is nominated by the council of chiefs and elders and have a four-year term and operates with a security council. The vigilante group leadership is then introduced to the district police officer (DPO) and his team at a security briefing in the palace of the King after inauguration.

The vigilante group operates with locally fabricated guns, machetes and the leader has a licensed pump action imported riffle. Households of Rukpokwu area of PHC pay between 200 to 500 Naira (360/1$) approximately between (6 cents to $1.60) monthly for security fees and the money is collected household by household and saved in a formal bank and used for the running of the unit. At the beginning of each year, these institutions have their budgets presented to the council of chiefs and elders for perusal and approval. They estimate how much they are expected to get from taxes (revenue) and what they intend to spend and on what, at the same time they submit copies of the previous year’s tax book. These informal arrangements within these institutions shows how informality run itself and the urban households tends to have more confidence in them than the formal sector institutions. In all these, there is the concern that politicians might hijack this process for their selfish interest and gains as was seen in the case of the Bakassi Boys Vigilante Group in Aba.

Other factors that causes diversity of urban households’ economic activities into, within and out of urban agriculture are as follows;

6.4.4 Culture and Tradition

The notion of ‘culture’ and “tradition” in UA is undoubtedly a contested concept, open to wide variety of interpretations. In its broadest sense it can be considered to encompass a set of shared values, beliefs, stories, memories, traditions, customs, practices and aspirations (Ikejiofor, 2006; Adeogun et al., 2007). I would argue, based on the discussion thus far, that contemporary UA has distinguishable roots in Rukpokwu culture and tradition, largely related to the production of food and in this sense, meets the conditions of ‘expressive’ authenticity. The strong social and cultural ‘exclusivity’ of Rukpokwu and the intergenerational spread of knowledge via family-
based inheritance have preserved the cultural homogeneity of UA. In this sense, at least it can be regarded as a form of ‘cultural practice’, which embodies shared cultural values. It has variously acted as a vehicle for resisting hunger and a system of provision for the urban households living in this area.

In chapter one and three of this thesis, I pointed out that people migrate into PHC where this research is based because of the desire to better their economic condition through seeking for jobs. PHC is the petro-economy headquarters of Nigeria and as such these migrants from mostly the rural areas and other states comes in with the hope of getting jobs in the petroleum industries and other formal sectors. Job opportunities varies according to skills (Maxwell, 1997) and most of these people come into the urban centres with little or no formal educational qualifications so it is difficult to get formal jobs (Appeaning Addo, 2010; Sparks and Barnett, 2010). Gender relation is another gap when considering determinants of livelihood diversification in the informal economy, for example, men are paid higher than women in the casual labour of UA in PHC. Culture and tradition distinguished men and women’s engagement in UA and so prompt diversification. Men usually take advantage of this situation in Rukpokwu where they can do both men and women jobs on the farm and charge very high for such jobs that are “men only” in UA of PHC.

Summarily, the notion of localities in the social relations of urban agriculture framework, informed us of how organisational capacities of networks are shaped by the local fabrics of institution in which they are housed. In this research, the local institutions of Rukpokwu is well constituted and interface with the formal institutions to deliver services to the people. One of such services is that of the vigilante that secure the area, it is evident that this is one of the reasons people are attracted to live and do businesses in the area. The locality of Rukpokwu offers other opportunities outside of urban agriculture and the notion of localities in this framework explained it better. That is to say, for the last group that did not engage with urban agriculture but was included in my research, it was made possible because of the location and attributes of my study area.
Conclusion

Urban agriculture in PHC does not occur in a vacuum and the decision to engage with, diversify within, move out of or never to enter are driving the social relations of urban agriculture explained above. These informal relations, networks and institutions interacts with the feature of UA in PHC and the resultant outcome is households taking any of the decisions discussed in the framework. There is the need to have access to land (low value, secured, insecure or lease) and this play a key role in the decision to engage with UA in PHC. Once a household is in UA production cycle, depending on the tenure of land, they make the decision to diversity within or move out of UA. Households that did not diversify into UA from the onset took advantage of other opportunities offered by the locality of Rukpokwu and the informal economy in the city of Port Harcourt. This makes the social relations of urban agriculture (Legacies, Linkages, Localities and Land) with their interaction with the features of UA significant in the study of UA in PHC.

In this framework, different nodes developed when I analysed my research data using different elements of the social relations of urban agriculture framework. When access to land is at the fore of the framework, eight nodes developed as explained earlier in figure 28. The remaining three elements (legacies, linkages and localities) of the framework produced seven, four and five nodes respectively (fig. 29, 30 and 31. The notion of localities explores the various opportunities provided by my study area, linkages deal with the link these urban households have with their various rural areas and other places they still rely on for services. The notion of legacies dwells on the birth right, history or background of the locality, the people of PHC are predominantly fishermen and crop farmers and that is not forgotten among my respondents.

There are situations where both husband and wife as part of a household took different paths in determining their economic trajectories. Example of a husband who is the head of the household and works as an informal security and was on a salary of 15,000 Nigerian Naira ($40) per month, where a Dollar was equal to 375 Naira in February 2016. The wife took the opportunity provided by vacant land at the place where the husband was working and started UA and the household’s economic situation improved. These are some of the positives stories that household members have said about diversifying their economic activities in PHC.
In summary, the social network of urban agriculture in Port Harcourt City and the social relations of urban agriculture framework play an important role in the decision of urban households to start, diversify within and move out of UA while some never entered at all. This framework therefore interacts with the features of urban agriculture in PHC and the outcome is urban households’ decision to start, diversify within and out of UA while others do not diversify in at all. The group that never entered UA production cycle which my research focused on, is based on either lack of access to land and/or availability of other informal economic activities that the informal economy of PHC offers. These opportunities outside of UA production are offered by the location of Rukpokwu and the various informal networks, institutions and relations that this locality provides for its inhabitants.
CHAPTER SEVEN

Conclusion

Introduction
This chapter concludes the thesis and attempt to links together evidence and themes arising from the empirical investigation with broader issues outlined in the preceding chapters. This chapter is divided into three parts. The first part summarises what I have done in the previous six chapters, explaining what I did in those chapters and why I did them. The second part presents what I have found from the research and what they mean in relation to answering my research question. It uses the research focus (informality, poverty reduction, households’ diversity with urban agriculture) to bridge the research gaps, key challenges, conceptual, methodological and empirical contributions. The third part of this concluding chapter discusses the usefulness and limitations of the framework used in analysing this research and gives insight into future research using elements of the framework.

This chapter shows the potentially productive areas of my work and recommendation for future work are highlighted. I also critically review questions of process and methodology, looking at possible replication and generalisation of the research across Nigeria. The evidence provided, I argue, demonstrates the power of a case study, using a ‘mixed methods’ approach to reveal the complexities and context-specific nature of reality on the ground. Further, the approach of a one-off long phase of fieldwork (11 months) period, offers the opportunity for a unique insight into looking at the role UA plays in the livelihoods of poor women and men in PHC.

Globally, lack of access to land has been identified as a fundamental stumbling block in the ability for smallholder producers towards achieving goals set to reduce poverty, inequality elimination and improving well-being. Sustainable cities and communities is a critical part of the target set by the United Nations towards eliminating hunger, fostering better communities and reducing poverty to have a sustainable society. However, policy makers and planners in most of the cities in the global south including
Port Harcourt City are yet to accept the contributions of urban agriculture towards this effort. Global and regional efforts to address urban poverty are yet to fully appreciate these contributions of UA and thus this neglect is even more apparent when you look at the microcosm of urban poverty in Nigeria. This thesis has contributed to this critical research area by asking and answering the question: why do urban households in Port Harcourt City start, diversify within and move out of UA? It has paid more attention to poor urban households engaging with informality in PHC as a means to understand the relationship between diversity of poor urban households, urban poverty and urban agriculture.

It is all too common for the voices and perceptions of the households in this part of Nigeria (Rukpokwu, PHC) to be largely absent in scholarly accounts of poverty reduction strategies. This thesis has demonstrated that an awareness of urban agriculture workers can help to unravel some of these complexities. These complexities are those that scholars, researchers, planners and development agencies have been grappling to understand how to plan for interventions concerning them and move beyond addressing the technicalities of urban agriculture.

Through addressing these gaps, the thesis has made several contributions to the existing evidence base and policy discourse, particularly in Port Harcourt City, Nigeria. In this final chapter, key findings of the research and highlights of major conceptual, methodological and empirical contributions are synthesised.

Section 7.1 outlines key contributions of this thesis towards better understanding of planning for urban poverty reduction strategies and food in Nigeria. Section 7.2 responds to the research question, outlining the research gap, key challenges and contribution of this research to the dual challenges of planning for urban poverty reduction strategy and food security from the notion of legacies. Then sections 7.3, 7.4 and 7.5 look at linkages, localities and land respectively. Section 7.6 highlights key reflections from the research, focusing on contributions to urban poverty reduction research in Nigeria, and avenues for future research.
Part One: Summary of the various chapters

7.1 Setting and Context of the Research: What I have done and why.

In this thesis, I have explored the role urban agriculture plays in the livelihoods of urban households (men and women) in Port Harcourt City. The Rukpokwu area of Port Harcourt City is widely considered the new face of the city because of its strategic location between the old and newly proposed Greater Port Harcourt City (GPHC). As the location for my empirical study, I argued that it has provided me with rich source of data that I have analysed and have answered my research question.

This research has helped to explore a policy gap in the Nigerian poverty reduction strategies that tend to generalise poverty that is almost always defined by political elites rather than those considered poor (Awotide, Kehinde and Agbola, 2010). The 11 poverty reduction strategies in Nigeria from 1970-2019, have not considered that there is a difference between rural and urban poverty (Adeogun et al., 2007; Orsini et al., 2013). This research has used the process of urban households’ engagement with UA to show the link between urban agriculture and urban poverty reduction in PHC. I used my fieldwork visit to collect data that answered my research question of how do urban households in Port Harcourt City diversify their economic activities into, within and out of UA. These households have individually and collectively engaged with informality (UA inclusive) and grappled with poverty in the context of broader economic changes.

In this study, I emphasised the role urban agriculture plays in the livelihoods of poor women and men in Port Harcourt City which is generating interest in pro-poor development interventions. There have been worries over methods of studying informality in Nigeria and most African countries, the insinuations that informality is called shadow or illegal economy (Bryld, 2003; Schneider, Buehn and Montenegro, 2010) add to this. Also, the debate of what is legal and not legal while considering the economic boundaries of these states (formal and informal) have raised eyebrows also considering there appears to be illegal practices in the formal economies too (Meagher, 2005, 2013). The social network of studying informal economies in Nigeria
then, offers a new approach to this by looking beyond the boundaries and concentrating on legacies, linkages and localities as ways of understanding social relations. This research modified the approach by adding land to the existing notions.

The origins of contemporary livelihoods that these households depend on is of the past, as the notion of legacies has shown in chapter six. Urban agriculture in PHC has deep historical roots in the pre-colonial economy, where it serves as a source of food, medicines and source of income (Johnston, 2004; Pieterse, 2010). Most urban agriculture practices in PHC have remained fairly narrowly focused on the local diet requirement of the people (Mougeot, 2006; Neef and Neubert, 2011). I argue that although urban households were forced out of the cities during SAP, some households maintained farming in the peri-urban areas, growing crops that were not imported as part of the deal between Nigeria and the World Bank/IMF. The occupations of fishing and farming have been part of the entire Rivers State’s culture and that comes with the abundance of natural resources available there.

In chapter one, the broad concept of urban agriculture was introduced and how it has been used as a poverty reduction intervention. Introduction of urban poverty as a multi-dimensional phenomenon which needs constant research into ways of addressing it was made. This chapter signposted why studying urban agriculture through the lens of informal economy was worth doing in PHC. This led to review of poverty reduction strategies in the global south and that helped the researcher to identify the knowledge gap which the research intends to fill. The research site of Rukpokwu was introduced and knowledge of the locality and its vibrancy made the case for UA as a poverty reduction strategy in the global south. This chapter continued with highlighting the research question, its focus and the study design and continued with the unique contributions the research is adding to development debate in the global south. In section 1.8, this research addresses what people need to know about urban agriculture in PHC and why this research is important in respect to development challenges faced by cities in the global south.

In chapter two, I considered three interlocking sets of literature that are often brought together in discussions of urban agriculture. I showed how a ‘virtuous circle’ can be conceived when urban agriculture is related to urban poverty reduction in the context
of pervasive informal economies. In such conceptions, the features of urban agriculture interact with the motivations to reduce impoverishment in an economic environment of informality that is conducive to small-scale activities that, at least initially, would find bureaucratic costs unduly burdensome. With one eye on the prize that this virtuous circle suggests, I showed nevertheless that it has tended to be thought of in terms of outcomes. That is, outputs of urban agriculture reduce poverty and ultimately levels of informality. While these are important, the key argument of the thesis has been that the social relations of urban agriculture have tended to be neglected and these need to be considered in order to realise some of the benefits claimed by advocates of urban agriculture.

With this need in mind, Chapter three builds a conceptual framework to focus on the social relations of urban agriculture. As part of ensuring precision, I moved from the broad discussion of urban agriculture to a specific understanding to be operationalised in the thesis. Thus, urban agriculture is considered as a set of practices pursued within the built environment of cities, to produce food at a volume beyond that required for household consumption and at a scale requiring a parcel of land exceeding the normal household plot. In other words, I focus on agriculture as a set of practices (that require interactions with others) at the production phase, that take place in the city and beyond the home (that require negotiating access to land).

The conceptual framework is developed by bringing together two theoretical approaches. The first, and in the acknowledgement of pervasive informality in urban economies of Nigeria, draws on an expanded approach to the social networks of informality. In doing this, I elaborate Meagher’s sociality of informality approach by introducing the social relations of land. The second theoretical approach that I introduce is an aspect of the sustainable livelihoods approach. Notably, this is its focus on the determinants of livelihood diversification. These determinants act as contextual features that are commonly faced by poor and vulnerable households. Together, the overall framework allows me to consider how poor households working through the sociality of informality engage with the features of urban agriculture in the context of the determinants of livelihood diversification in order to address their hunger and need for income. This framework enables me to focus on the social relations of urban agriculture in Port Harcourt City.
Chapter four uses the analytical framework presented in chapter three to frame the methodological approach and methods of the study, adopting a case study approach and mixed methods. The study is designed with an inductive approach (taking us from theory into empirical). This chapter begins by providing the research approach, which is mainly based on qualitative methods supported by some quantitative data. The chapter then operationalises relevant theoretical concepts before presenting the methods used to examine the arguments both in terms of data collation and analysis. The research instruments are designed to collect data from both primary and secondary sources such as reviews of grey literature, closed-ended questionnaires, detailed interview, and focus group discussions.

Chapter Five, brings the concept of urban agriculture in Port Harcourt City to the fore. It does this by explaining the research background, study area and participants. The legal framework on land use planning legislation and environment in PHC, Nigeria is explored here. It goes further to review the phases of land reforms in Nigeria and the place of the urban farmers (emphasis laid on the Land Use Act 1978). The results from the fieldwork are then presented and analysed in depth to reveal the delicate balance between informality which urban agriculture is part of in Port Harcourt City and poverty. This is in respect to the broader Port Harcourt City's informal economy and its sociality (informal relations, institution, and networks) that they are embedded. The chapter further showcase empirical evidence to support the researcher's position that participants in this research engage with the production phase of UA because of poverty.

Chapter Six answers my research question of "how do urban households in Rukpokwu area of Port Harcourt City start, diversify within and move out of UA?". It does this by examining the different configurations of factors and elements that make up the categories of legacies, linkages, localities, and land in relation to the features of urban agriculture and in the context of the determinants of diversification. It examines the role legacies of birth right plays in determining who gets what, when and where in Rukpokwu. This chapter explains how the notion of localities has placed Rukpokwu as an attractive place for informal economic activities and new entrants into the city take advantage of this to fend for their households. The notions of land and linkages further explained why the choice of Rukpokwu as an entry point into this research was
useful in that the land relations and socio-political issues that govern its transactions and the linkages of the people of Rukpokwu to the other parts of the city and state is made clearer in this chapter.

In this framework, different nodes emerged when I analysed my research data using different elements of the social relations of urban agriculture framework. When access to land is at the fore of the framework, eight nodes developed as explained in 6.1. The remaining three elements (legacies, linkages and localities) of the framework produced six, four and five nodes each respectively with different positioning of the nodes as explained in 6.2;6.3 and 6.4 above respectively. The notion of localities explores the various opportunities provided by my study area, linkages deals with the link these urban households have with their various rural areas and other places they still reply on for services. The notion of legacies dwells on birth right, the history or background of the locality, and the historical agricultural practices of fishing and farming of people in PHC.

Urban agriculture in PHC does not occur in a vacuum and the decision to diversify into, within, out of or never to enter are driving the sociality of informality explained above. These informal relations, networks and institutions interacts with the feature of UA in PHC and the resultant outcome is households taking any of the decisions discussed in the social relations of urban agriculture framework. There is the need to have access to land (low value, secured, insecure or lease) and this play a key role in the decision to diversify into UA in PHC. Once a household is in an UA production cycle, depending on the tenure of land, they make the decision to diversity within or out of UA. Households that did not diversify into UA from the onset take advantage of other opportunities offered by the locality of Rukpokwu and the informal economy in the city of Port Harcourt. This makes the social relations of urban agriculture (Legacies, Linkages, Localities and Land) with their interaction with the features of UA significant in the study of UA in PHC.

Chapter Seven concludes the thesis and attempts to link together evidences and themes arising from the empirical investigation with broader issues outlined in the opening chapters. The chapter is divided into three parts; (1) deals with the summary of the various preceding chapters (2) presents what I have found from the research
and what it means as the answer to my research question (3) explains the limitations of the social relations of urban agriculture framework and suggest ways to improve future research. The potentially productive areas of this research are shown, and recommendations for future work highlighted. It also critically reviews questions of process and methodology, looking at possible replication and generalisation of the research across Nigeria.

**Part Two: What I have found and what they mean to the answer of my research question.**

I now discuss what I have found and what it means to those practicing urban agriculture and its implications to those working on the concept of UA as a policy goal. The engagement with urban agriculture in the city of Port Harcourt Nigeria, has implications for poverty reduction. Advocates of urban agriculture would do well to pay more attention to the social relations of urban agriculture framework (fig 7) and understand how its interactions with features of UA enhances diversification. Therefore, the focus of the research (informality, poverty and urban agriculture) helped in explaining how poor urban households diversify their economic activities in PHC. These outcomes and what they mean to the people practicing urban agriculture and those promoting it are discussed below.

**7.2 Framing Informal Economy Geographies and Key Contributions**

Some authors have suggested that we should move away from the vague assumption that informal economy is the dark or underground economy associated with malicious practices. They suggested that social networks should be used in studying informality in the global south because the illegality accused informal economy of is evident in the formal economy too.

In this thesis, urban poverty reduction strategies are viewed as interventions planned towards poor urban households which enable them to meet their food security. The research has offered new insights into urban poverty reduction strategy, the characteristics and trends that exacerbate it. This research places particular attention to the debate of urban poverty in Port Harcourt City (in the midst of the Niger Delta
region midwifed by violent crisis resulting from petroleum industry activities). Research has neglected this area of Nigeria due to high crime rates (kidnapping, political violence, gangs and cult-related killings). It provided empirical data on social and environmental challenges as well as urban agriculture, urban poverty and informality in Rivers state, Nigeria. Deeper exploration was provided by the mixed methods approach adopted by this research in meaning and process of urban poverty, informality and diversity of urban households faced with economic uncertainty.

By using a locally grounded approach to explore this research, it demonstrates the value of using a case study, drawing on bottom-up (local) experience. Rukpokwu represents a unique context; shaped by its cultural legacies, its linkages to other parts of the city and country, its local institutions and fertile land that is available for UA and other urban development needs. Therefore, this research in some ways provides an exceptional case with some findings specific to the region. For example, the principal role played by the legacies of birth right in urban livelihood dependent natural resources allocation (land) between male and female members of a family.

Sometimes a case study approach in research is criticised for its lack of broader applicability (see chapter four). However, the findings from Rukpokwu, PHC urban agriculture workers are relatable to other anti-poverty intervention strategies in African cities (Accra, Kampala) and across the global south. For example, drawing on two studies from two African cities on urban poverty and food security (Mougeot, 2000; Lwasa, Mugagga, Wahab, Connors, et al., 2014) find that urban households turn to UA because of poverty and UA that started as just a coping strategy has evolved to a viable livelihood. The authors call on practitioners and intervention planners to acknowledge the role and relationship between UA and urban poverty in addressing food security of urban poor households. In their work in Cuba and Kigali (Altieri and Toledo, 2011; Kimani-Murage et al., 2014; Schmidt, Magigi and Godfrey, 2015) acknowledged the contributions of UA to the city’s economy and the significance in incorporating this intervention into the city’s development plan.

Identifying people that interventions are planned for is another common problem in urban poverty research. In papers titled three new insights into poverty intervention (Schreiber, 2003 and Ackerman et al., 2014) argue that while studying poverty in the
global south, planners should look beyond aid from donors alone but focus on
development challenges that can be resolved by introducing uniform and sustainable
interventions. The authors included examples from Kampala where urban agriculture
workers were included in the urban productive system through the land ordinances. In
Port Harcourt and other cities in Nigeria, the aftermath of the Structural Adjustment
Programmes (SAPs) has thrown some urban households who were relatively secured
into precarious situations. Adding to that, the main aim of pro-poor interventions in
Nigeria and the global south is to aid households achieve food security and urban
agriculture is a platform to achieve that in PHC. Evident from this research, urban
households start, diversify within and out of urban agriculture in Port Harcourt City to
achieve food security which is related to poverty reduction.

Furthermore, the four groups purposively selected for this research are evidently
distinct in some ways. This speaks to the applicability of certain aspects of the
methodology, such as the livelihood pathways of urban households in the social
relations of urban agriculture framework to broader informality. The conceptual
framework of analysis (fig 7) has been developed keeping in mind key gaps in global
urban poverty and informality literature. This framework which was built upon from the
social network of studying informality in Nigeria (Meagher, 2005), evolved into the
analytical framework (Land, Legacies, Linkages and Localities) used in analysing this
research.

The results therefore provide key findings not only into interlinkages between urban
poverty, informality (urban agriculture), diversity of poor urban households and access
to land in Rukpokwu, PHC. It also provides how these linkages can be explored in
regions with similar institutional complexities/cultural practices and can play important
roles in land managements. The following section highlights how the results and
discussion chapters responded to the three foci that arose from the research question
in the introduction to this thesis. Through addressing these gaps, this thesis
contributed to the existing evidence base and policy discourse in Nigeria.
7.3 Urban Poverty Reduction Strategy and Informality Linkages

The thesis identified that the interactions between urban agriculture, urban poverty and informal economies tend to be considered in terms of outcomes and that in this process, it is necessary to understand how the social relations of urban agriculture affect the interactions. The logic being that social relations are as important in determining the viability of an activity as the technicalities or practicalities. Thus, in order to develop a fuller analysis of the viability of urban agriculture, it is necessary to consider both the social relations and practicalities of the practices. While the practicalities and technicalities have been considered extensively, the social relations are highlighted in this thesis.

Conceptual and Methodological Contributions: This thesis has developed a new conceptual framework that accounts for the social relations of urban agriculture and conducted empirical analysis that goes beyond traditional conceptualisation of urban poverty and poor urban households research in Nigeria by providing detailed disaggregation of factors surrounding and supporting planning for intervention for urban poverty and food security. Chapter five was not to measure or quantify poverty but to give empirical evidence about urban households and their diversity into, within and out of UA. The use of mixed methods in addressing this enable the research to have a more flexible and exploratory approach, where the aim is to produce structures that emerged from secondary data and worked within them to advance theories of urban agriculture, urban poverty reduction using primary data and local knowledge from 40 urban households and four distinctive but tailored focus groups.

Empirical contributions: Results show that urban households starts, diversify within and move out of urban agriculture in Port Harcourt city, Nigeria to achieve food security. All forty households in the in-depth interviews that was later double-checked with the four focus groups acknowledging that the desire to achieve household food security prompted them to diversify their economic situation. This finding is significant as it is opposite to the desperate and less advantageous reason Hussein and Nelson (1998) and Ghosh (2006) gave that made households diversify in the informal economy (chapter three). This contributes to authors such as Block and Webb (2001)
and Ellis (2005) who supports the diversification in informal economy in the global south as means of households achieving food security and exiting poverty.

Literature review shows that, practically, there have been misconceptions of the role of informality (urban agriculture) and urban poverty reduction interventions, while planning for poverty reduction. Some researchers argue that urban agriculture is a study of wastewater farming and should be studied with caution within studies of broader agriculture (Drechsel and Evans, 2010). However, analysis of UA in the study area shows that it is a permanent part of the urban economy and the urban productive system. This characteristic of urban agriculture as part of the informal economy in PHC makes it attractive to practitioners and planners can tap into it and use it as they plan interventions for food security and urban poverty reduction.

In analysing trends in informal economy of Port Harcourt City, respondents also perceived growing concern about the illegal tags, high/double taxes, instability and insecurity of land tenure associated with their practices. These urban households, particularly perceived the harassment from revenue collectors of the local government and sanitation authorities as hindrances to their ability to scale up. This is corroborated by literature where the informal economy is still viewed as the shadow economy and harassed by the agents of the formal economy just to subordinate it. Further harassment of the informal economy from the agents of the formal economy will undermine rather than appreciating the contributions it is bringing to urban lives through diversity of urban households’ economic situations. Therefore, to achieve the desired aim of goal 11 of the United Nation’s SDGs (sustainable communities and cities), informality (UA) should be harnessed and incorporated into the Port Harcourt city’s development plans.

These results show the need for a bottom-up approach while studying urban poverty in the global south, where the voices of those that interventions are planned for are heard and incorporated into the designs of such interventions. While there are some physical and empirical evidence on the operations of urban agriculture as a livelihood strategy in the PHC and Nigeria, there is none theory based built into the various universities’ curriculum. None of the Nigerian universities, colleges or polytechnics have urban agriculture built into its curriculum till date (2020). The analysis in chapter
five, therefore shows the composition of households, practices of urban agriculture and how the four groups studied navigates their livelihood pathways to achieve food security. Case study research’s goals are to better the lives of the people studied, thus the results from this research if applied in the context of poor urban households engaging with informality, the data is likely to offer a better result.

The results demonstrated that to plan for poverty reduction in Port Harcourt City, Nigeria, there must be strong linkages between informality, social relations and diversity of poor urban households. It shows that when poor urban households are involved in the drawing phase of intervention projects planned for them, they own up and appreciate it (the poor know their conditions best). It therefore leads to the conclusions that sometimes it is difficult for planners to translate within the realities of urban poverty reduction debates.

The next section shows how livelihood diversification can be used as a framework to bridge the gap between urban poverty and urban households facing economic challenges.

7.4 Developing a Context-Driven Actionable Framework for Poverty Reduction.

There are vulnerabilities associated with the practices of informality (urban agriculture), therefore to withstand when such occur, households plan for emergencies. In Nigeria, there are few studies on urban livelihoods and very few on the interaction between poor urban households, informality and poverty with the outcome to diversify their urban agricultural economic situations towards reducing poverty.

**Conceptual and methodological contributions:** The goal was to make the social relations of urban agriculture framework applicable in practice through context-specific relevance to the four groups studied. For why households engaged with UA, this thesis argue that they work through legacies, linkages, localities and access to land then weigh other options available to them and took decision. In focusing on each of these notions, there is a need to acknowledge that the cultural and traditional practice of the people of Rukpokwu people of PHC, will bind on the future generations while dealing
with land access. This thesis therefore argues that in effect, there can be a social relations of urban agriculture framework that will not negatively affect households by throwing them back to the vulnerability state they were before they diversified (chapter 6). While this can be generalised in the global south, it is specifically useful in Nigeria where informality and the formal economy intertwine.

**Empirical contributions:** In the context of the land access, food security and poverty reduction all forty households recruited into the research in Rukpokwu Port Harcourt City, were vulnerable. The causes (drivers) of these vulnerabilities were found to be very context specific and varies from one household to the other. These vulnerabilities range from: insecure land access, minimal linkages to the local informal institutions, legacies of birth right, the local economy in context of the culture and tradition that they are embedded. For instance, respondents from the just starting households focus group view integrated farming as accumulation of wealth by the established urban farmers (diversifying households), while the diversifying households focus group saw it as prevention against vulnerabilities.

One of the key findings of the analysis is that context-specific indicators that are both objective and subjective valuations can provide results that are applicable in the context of the four groups studied. Issues that are difficult to analyse quantitatively are dealt with by the robustness of the qualitative analysis, making the mixed methods adopted by the research a vivid one. The four groups explore the opportunities provided by legacies, linkages, localities and access to land in relation to the economy of Port Harcourt City and the outcome is the diversity of urban households into, within and out of UA.

**7.5 Urban Agriculture as a System of Provision**

The agreement that urban poverty is a fundamental challenge and that urban poverty is a multi-dimensional social phenomenon means that policy makers are constantly searching for more effective ways of intervening in urban life to reduce urban poverty (Gulyani and Talukdar, 2010; Zezza and Tasciotti, 2010; Brown-Luthango, 2011). Most of the solutions offered for urban poverty reduction strategies in the global south have not been successful because of the top-down approaches its designers use
when implementing them. Poor urban households through the engagement with livelihood diversification have responded to the problems of uncertainty across activities and sectors, geographically, within households and over time to cushion risk and vulnerability and, indeed, poverty (chapter three). Therefore, in Nigeria, there is a significant knowledge gap between the policymakers, intervention planners and those who such interventions are planned for. To bridge these gaps, policymakers need to listen to proponents of urban agriculture and understand the realities on ground and understand how it can be the Cinderella of development and poverty reduction through food security provision.

**Conceptual and Methodological Contributions:** Evidence provided in chapter five and six shows that urban households in Rukpokwu, Port Harcourt City diversify their economic situations to mitigate the effect of poverty. In a region where insecure land tenure, conflict, theft, evictions and lack of financing are vulnerabilities to the urban agriculture workers, urban agriculture acts as a system of provision to the urban poor households. Using the determinants of diversification as a concept for the urban poor, shows why some urban households start, diversify within and move out while others do not diversify into UA at all. Successful strategies to reduce urban poverty must take into consideration the voice of the people who such intervention is planned for. Understanding these differences will help interventions to be target specific and policies will deliver on its aims of improving lives of urban citizens. Analysis in chapter six therefore shows that livelihood diversification does not occur in a vacuum but arose as a system of provision for the urban poor.

**Empirical contributions:** The results in chapter six show how urban households in Rukpokwu, configure their social relations when starting, diversifying within and moving out of urban agriculture. Using a framework (figure 7) of the social relations of urban agriculture, this research demonstrated that households facing difficult economic situations for diversifying their economic activities work through informal relations, institutions and networks. This sociality regulates these economic activities through engagement with the features of UA with the outcome of starting, diversifying and moving out of UA. Urban agriculture as a livelihood choice evidenced in chapter five is driven by the notion of legacies, linkages, localities and access to land in Port Harcourt City (chapter six). However, neither policymakers or researchers in Nigeria
have recognised or accepted the relationship between urban poverty and urban agriculture in intervening for urban lives.

These relationships between urban poverty reduction strategies and urban agriculture is what constitute the challenges city planners need to address. Among these challenges are access to land and the tenure systems, institutional support, culture and traditional practices and networks which they are embedded. Furthermore, there could be other factors that significantly affects the planning for poverty reduction interventions for urban poor households in Port Harcourt City, Nigeria.

The objectives of urban poverty reduction interventions planning must reduce vulnerabilities and increase resilience. The Federal and State governments of Nigeria in a collective effort to tackle development challenges (unemployment and poverty) ravaging the nation adopted as a medium-term strategy to improving living conditions for its populace for the periods 2003-2007 (Chukuezi 2010). They came up with National Economy Empowerment Development Strategy (NEEDS) and the States Economy Empowerment Development Strategy (SEEDS). Both strategies were aimed at combating unemployment which was estimated to be 5.3% as at 2003 and grew to 14.2% in first quarter of 2017 and 23.1 in 2019. This shows how important this research that is geared towards exploring how diversification into, within and out of UA in PHC will provide employment, food security and reduce poverty in PHC.

7.6 The Impact of Land Use Planning on Land Access in PHC

Where the process of urban development and planning are exclusionary, deprived social groups are pushed to marginal positions and such is the impact of land use planning on land access PHC. Through the exploration of the impacts of land use planning on urban agriculture, this thesis first and foremost argues that institutional arrangements regulating urban natural resources (land, forest and sea) further aggravates the circumstances of urban poverty by limiting the urgency of deprived social groups (youths, women and non-indigenes) to tap into these resources to earn a living and build their livelihoods. An inclusionary urban planning with particular reference to land use planning will provide spaces for deprived groups to participate in decision-making processes regarding the allocation and distribution of urban natural
resources and promote the optimal use of urban natural resources to empower such group. This research supports these arguments with empirical example on Urban agriculture in PHC, Nigeria as well as cites the cases of LUP in other African cities (Accra and Kampala).

Natural resources have over time provided income opportunities to sustain the disadvantaged groups in our cities including unemployed youths. Livelihood strategies built around the use of these resources (land, forest, river, biological and non-biological resources in the environment) are seen to be more sustainable (Ellis and Allison, 2001; Twyman, 2001). Unlike several efforts made in conceptualising various urban livelihood strategies, natural resources appear to receive little attention (Raihan, Fatehin and Haque, 2009; Appeaning Addo, 2010). Most researchers only focus on the social, human and financial capital of urban livelihoods used by the urban households to secure livelihood but minimal research on the natural and physical resources within the urban areas. This could result from cities authorities failing to recognise the potentials of urban natural resources strategies as a meaningful urban livelihood since priorities of cities are shaped by development debates and plans.

The contributions of natural resources (land, forest and sea) to socio-economic well-being of urban households in PHC are neither fully recognised nor incorporated into urban development agendas and processes. This is evident in policies that took away land from the urban farmer participating in the school-2-land projects and converting them to a real estate. There are available several fertile lands in PHC but there are no laws or bylaws supporting access to land or a buffer zone for the “urban agriculture” workers in the city. Looking at the Land Use Act of 1978 one will think it has come to unify Nigeria’s land tenure system because it vested power of all land in the state in the hands of the governors (mainly for agricultural, housing and industrial development). This is not the case today as many poor urban households who desire to engage with urban agriculture as a livelihood strategy are hindered by access to land.

Urban agriculture (UA) represents one of the livelihood strategies in cities that require natural resources to serve its purposes to those engaging with it. The lack of adequate recognition of this livelihood strategy (UA) undertaken by the poor urban households
undermines the contributions of these activities to addressing hunger and poverty in cities (Littig and Griessler, 2005; Drechsel and Dongus, 2010; Zimmer, 2010). UA has multiple localised effects on the urban life at various scales, it impacts on the food security and empowerment of individuals, social cohesion and economic benefits at both the city and national levels (Drechsel and Evans, 2010; Crush and Caesar, 2014; Jaeger-Erben, Rücker-John and Schäfer, 2015). Where planning processes and planning exists, they tend to determine the livelihood strategies adopted by the urban households in cities. Although livelihood strategies are built around urban natural resource, land use planning (LUP) impact on the emergence and the contributions of these activities to the households and the city generally.

Today, about 70% of the food consumed in Kampala is being produced within the city due to formal recognition of UA and with a reasonable number of women now empowered through UA and associated activities. Ironically, competing land uses and physical transformation of landscape especially in planned cities continue to displace UA and associated activities such as during SAP in Nigeria (Ekpenyong, 1995; Shimada, 1999b). UA activities are often regarded as marginal activities but these tags invariably lead to unemployment and social exclusion of disadvantaged groups, urban agriculture practices when harnessed then bridge the gap in PHC.

Land use planning (LUP) in urban areas can result in either loss or gain of income opportunities as seen in the Kampala example. When supported rightly with political will and appropriate land use planning, UA presents a platform for achieving short and long-term urban development goals that reduces poverty. In PHC that is highly ethnocentric, with different communities, UA provides cross-sectoral, operational and objectives that foster social inclusion and integration leading to urban sustainability.

While the city of Port Harcourt and Rukpokwu area is undergoing series of urban environmental changes, the formal unemployment rate is on the increase. Fishing and crop farming which was hitherto a socio-cultural activity of the indigenous people of Rivers state is now being threatened. While fishing is threatened by the activities of the oil industries because of oil spillage, LUP is threatening urban farming who are involved in crops planting. This means that urban agriculture which is a livelihood strategy in the petro-economy capital city of the world’s most populous black nation
(Nigeria) need support from policy makers to thrive. Amidst criticism that the provision of social safety nets creates dependency as well as the insufficient social security for unemployed urban households in low income nations, this research is presenting UA as a development alternative for urban self-sufficiency. By identifying the opportunities and constraints that land use planning presents for UA to be maximised as a livelihood and empowerment strategy in PHC, Nigeria.

In UA of PHC, access to land underlies other aspect relating to land usage and it is abandoned in land use planning debates. Land use planning (LUP) is a process through which decisions on sustainable use of natural land are made and/or a mechanism that regulates access to land as well as influences how it is used (Mougeot, 2000; Aribigbola, 2008; van Dijk et al., 2010). The factors determining access to land are influenced by socio-cultural norms, legal rules and external factors and they vary between rural and urban context (Thapa and Murayama, 2008; Bhandari, 2013; Frayne, McCordic and Shilomboleni, 2014). These factors can make land remain underused or overused when they are not managed properly. This could dent the productive use of this natural resource by potential users and besides, access to land can also reflect socio-spatial inequalities in the society.

Although, practices of urban agriculture are evident in every city in Nigeria and Africa, very few of them have made it a national policy. At the same time, thinking of examples of good practice for land management in Port Harcourt City for UA, two primary development debates were considered by this research. The Common Pool Regimes (CPR) and Community-Based Natural Resources Management (CBNRM). These are on-going debates in planning and researchers strongly argue that communities can manage resources in sustainable ways (Dubbeling, Zeeuw and Veenhuizen, 2010; Mijatovic et al, 2013). But in a city like PHC with diverse ethnic groups, it is not clear what “community” represents therefore, this research will suggest two ways that UA can access urban natural resources (land, forest and sea) in PHC. The two best practices are; Accra (MPAP) and Kampala (Ordinances), these cities have nationalised UA and its practices are collectively done and it is benefiting all parties.
Part Three: Limitations of the Analytical Framework

I have argued that impoverished urban households work through social relations of urban agriculture in configuring their livelihoods. This helps them to engage with the features of urban agriculture in starting, diversifying within or moving out of UA in order to respond to the particular livelihood situation. The social relations of urban agriculture framework accounts for the interaction between agricultural production, informality and diversity of poor urban households’ economic activities. It considers informality as working in two ways; first, mediating a set of PHC’s informal economy that prompt diversification of poor households’ economic activities and second modulating the characteristics of UA. In other words, analysis of UA provides a means of assessing responses, adaptations and encounters with features of PHC’s economy through the sociality of informality. This framework explained why urban households engage in their economic activities using the elements (legacies, linkages, localities and access to land), it relates to different features of UA, in relations to alternative opportunities in the informal economy of PHC.

Although, this framework gave me insights into engagement with urban agriculture workers in Port Harcourt City, it has shortfalls resulting from my research focusing on the production phase of urban agriculture only. I did not involve policy makers and their views about UA in PHC neither did I involve multinationals such as SPDC who are supporting UA through its social corporate responsibility. Since UA has different phases (production, processing, marketing, consumption and recycling), I think it will be productive if future research uses this framework to analyse other phases of UA and build on what this research has done. I therefore suggest that definitions and studies of urban agriculture should be city specific, since different economic situations, motivations and organisations in relations to the economy of each city determines the abilities of households to start, diversify within and move out of while others do not engage with UA at all.
Conclusion

In this thesis, I have demonstrated that the social relations of urban agriculture exist in the city of Port Harcourt through the rich empirical data I have analysed and presented.

It is evident in cities of Nigeria and most especially PHC, but policies and intervention planners are yet to accept what it is and what to do with it. Therefore, the social relations of urban agriculture framework used in analysing this research has shown that diversification in informality does not occur in a vacuum but operates through informal relations, institutions and relations that embed those interactions.

The choice of the focus of this research (informality, poverty and diversity of poor urban households engaging with UA) helped us to understand the choices people make when facing precarious economic situations. They tap into the notions of legacies, linkages, localities and access to land in Rukpokwu area of PHC and depending on which of these is available, they make their decision to diversify. Although access to land seems to cut across all the notions, it is more aligned to the localities, so also is the notion of linkages intertwining with localities and access to land. The notion of legacies which dwell mostly on the legacy of birth right and gender, navigates into other notions. For example, depending on birth right (male or female) access to land differs and gender as an identity hinders women from practicing some forms of UA especially when dealing with labour relations. So to understand and appreciate the value of this framework, they work together and the outcome is households taken decision that impacts their food security.

In conclusion, there is a strong, but differing relationship between legacies, linkages, localities and the decision poor urban households make to enter, stay and/or leave their engagement with urban agriculture. Localities plays a key role at the entering stage. Each household has a sense of belonging to a community and the notion of localities incorporates this belonging and the accompanied access to local institutions and social networks. In the case of the notion of legacies, providing food is viewed as vital and its effects are felt during entitlements and access to urban livelihood dependent natural resources (land, forest and river). In this case, the legacy of birth-
right affects the access people have. As explained in Chapter Three and Six, access tends to follow gender lines and men gain access to land more easily. The notion of linkages comes into play when people have secured what localities and legacies have offered (informal relations, institutions and networks/access). The linkages of these relationships including what can be connected from different networks including rural-urban makes the social relations of urban agriculture framework a coherent analytical tool for this research.

In Chapter Three, Figure 7, I noted the elements in this framework (land, legacies, linkages and localities) can work individually or collectively depending on which is achievable at any given time for the urban households. From my findings, the notion of localities and access to land is important to start urban agriculture and the just starting households need local conventions and land to engage with urban agriculture. They need to decide on where to practice UA (localities) and negotiate access to where to plant or keep animals (land). The diversifying households have passed through the phase where the 'just starting' are and their experiences have made their engagement with urban agriculture more sustained. They use a combination of these notions (land, localities, linkages and legacies) to their advantage. Some of these households usually start with localities or access to land and build on their portfolio as their engagement grows. In the case of the diversified-out and never done groups, they either left or decided not to engage because of other opportunities which the notions of localities, linkages and/or legacies either provides or denies.
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Information Sheet for participating in Research Studies


This study has been approved by the UCL Research Ethics Committee (Project ID Number): 6159/001

Name

Work Address

Contact Details

We would like to invite you to participate in this research project.

Details of Study:

☐ This research is recruiting poor urban households that have either diversified into, within, out of or have never practiced UPA to participate in this study.
☐ Once any household agree to take part in the study then we will require you to sign the consent form.
☐ Any of your information we hold will be treated to the best degree of anonymity in accordance with UK Data Protection Act 1998
☐ We promise to make the out come of this study known to you through seminars, conferences, journals and online
☐ A decision to withdraw at any time, or decision not to take part, will not affect the standard of care/education you receive.
☐ If you agree to take part you will be asked whether you are happy to be contacted about participation in future studies. Your participation in this study will not be affected should you choose not be re-contacted.
☐ You may withdraw your data from the project at any time up until it is transcribed for use in the final report (insert date).
☐ Recorded interviews will be transcribed (written up) and the tape will then be wiped clear.
☐ If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form.
☐ As participation is anonymous it will not be possible for us to withdraw your data once you have returned your questionnaire.

Please discuss the information above with others if you wish or ask us if there is anything that is not clear or if you would like more information.

It is up to you to decide whether to take part or not; choosing not to take part will not disadvantage you in any way. If you do decide to take part you are still free to withdraw at any time and without giving a reason.

All data will be collected and stored in accordance with the Data Protection Act 1998.
Appendix 2: Consent Form

Informed Consent Form for participation in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.


This study has been approved by the UCL Research Ethics Committee (Project ID Number): 6159/001

Thank you for your interest in taking part in this research. Before you agree to take part, I wish to refer you to the Information Sheet and if there is anything you don't understand I will be happy to explain to you.

If you have any questions arising from the Information Sheet and explanation already given to you, please may I ask you whether you are happy to join in this research. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant's Statement

☐ Have read the notes written above and the Information Sheet, and understand what the study involves.

☐ Understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researcher involved and withdraw immediately.

☐ Consent to the processing of my personal information for the purposes of this research study.

☐ Understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the UK Data Protection Act 1998.

☐ Agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.

☐ I understand that my participation will be taped/video recorded and I consent to use of this material as part of the project.

☐ I understand that I must not take part if I choose not to.

☐ I agree to be contacted in the future by UCL researchers who would like to invite me to participate in follow-up studies.

☐ I understand that the information I have submitted will be published as a report and I will be sent a copy or part. Confidentiality and anonymity will be maintained and it will not be possible to identify me from any publications.

☐ I agree that others may use my non-personal research data for future research. I am assured that the confidentiality of my personal data will be upheld through the removal of identifiers.

Signed: ___________________________ Date: ___________________________
Appendix 3: Household Roster

Urban and Peri-urban Agriculture
Survey Questionnaire
2015

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<tr>
<th>Interviewer number</th>
<th>Questionnaire ID</th>
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1. HOUSEHOLD ROSTER
This section should be answered by the household head or a knowledgeable respondent

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<th>Person (respondent) number</th>
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<th>05</th>
<th>06</th>
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</table>

1.1 What is your relationship to the head of the household?
(i.e. to the person in column 1)
01 = The household head
02 = Household head's partner
03 = Household head's biological/adoptive child
04 = Brother/sister/step-brother/step-sister
05 = Father/mother/step-father/step-mother
06 = Grandparent/grandchild
07 = Other relative (e.g. uncle/aunt/cousin)
08 = Non-related person

1.2 Is respondent a male or a female?
01 = Male
02 = Female

1.3 How old is respondent? (In completed years - in figures only)
Less than 1 year = 0

CONTENTS

SECTION 1: HOUSEHOLD ROSTER 1 – 3
SECTION 2: FARMS 4 – 5
### 1.4 What is respondent's present religion?

01: Christian

02: Hindu

03: Traditional beliefs

04: Other

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<th>Questionnaire ID</th>
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### 1.5 What form of transport does respondent own?

01: Bicycle

02: Tricycle

03: Motor cycle

04: Car

05: Trishaw

06: No transport

07: Other, specify in the box at the bottom

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</table>
1.6 What is the highest level of education that respondent has successfully completed?

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</table>

- 01 = No schooling
- 02 = Primary school (pre-school leaving certificate)
- 03 = Junior secondary school
- 04 = Junior secondary school
- 05 = Teachers training certificate
- 06 = National college of education
- 07 = National polytechnic
- 08 = Certificate or diploma from college of arts
- 09 = Certificate or diploma from college of science
- 10 = Bachelor's degree
- 11 = Bachelor's degree and diploma
- 12 = Master's degree
- 13 = Master's degree (Master's, Doctorate)
- 14 = Don't know

1.7 What is the main economic activity of each household member?

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</table>

- 01 = Formally unemployed
- 02 = Formally employed
- 03 = Informally employed
- 04 = Self-employed
- 05 = Casual worker
- 06 = Learning trade
- 07 = Student
- 08 = Research
- 09 = Apprentice
- 10 = Don't know
1. FARMS
This section should be answered by the household head or a knowledgeable respondent

This section collects information on the farms

2.8 Have you farmed in the last five years?
1 = YES
2 = NO

2.1 Are you still farming?
1 = YES
2 = NO
[Please answer 2.2 if NO but if YES proceed to 2.3]

2.2 When did you stop?
1 = 2010
2 = 2011
3 = 2012
4 = 2013
5 = 2014

2.3 What is the total number of urban farms that the household has access to?

2.4 On what tenure basis is this access secured?

<table>
<thead>
<tr>
<th></th>
<th>Farm 1</th>
<th>Farm 2</th>
<th>Farm 3</th>
<th>Farm 4</th>
<th>Farm 5</th>
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</thead>
<tbody>
<tr>
<td>01 = Formal Ownership</td>
<td>01</td>
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<tr>
<td>02 = Informal Ownership</td>
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<tr>
<td>03 = Formal Rental</td>
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<tr>
<td>04 = Informal Rental</td>
<td>04</td>
<td>04</td>
<td>04</td>
<td>04</td>
<td>04</td>
</tr>
<tr>
<td>05 = Leasehold</td>
<td>05</td>
<td>05</td>
<td>05</td>
<td>05</td>
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<tr>
<td>06 = Ownership</td>
<td>06</td>
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<td>07 = Family/Inheritance</td>
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<td>08 = Other, Specify</td>
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2.5 What size is each farm?

2.6 What activities take place on each farm?

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<th>Farm 1</th>
<th>Farm 2</th>
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<tbody>
<tr>
<td>01 = Vegetable Growing</td>
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<tr>
<td>02 = Crop farming</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
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<tr>
<td>03 = Animal husbandry</td>
<td>03</td>
<td>03</td>
<td>03</td>
<td>03</td>
<td>03</td>
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<tr>
<td>04 = Poultry</td>
<td>04</td>
<td>04</td>
<td>04</td>
<td>04</td>
<td>04</td>
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<tr>
<td>05 = Fish</td>
<td>05</td>
<td>05</td>
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<td>05</td>
<td>05</td>
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<tr>
<td>06 = Other, Specify</td>
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</table>

2.7 How do you usually travel to each farm?

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<th>Farm 1</th>
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<tbody>
<tr>
<td>01 = Walking</td>
<td>01</td>
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<td>01</td>
<td>01</td>
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<tr>
<td>02 = Bicycle/Twicycle</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>03 = Motor cycle</td>
<td>03</td>
<td>03</td>
<td>03</td>
<td>03</td>
<td>03</td>
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<tr>
<td>04 = Car</td>
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Appendix 4: UCL Ethics Committee Approval Letter

UCL RESEARCH ETHICS COMMITTEE
ACADEMIC SERVICES

15 May 2015

Dr Colin Marx
Bartlett Development Planning Unit
UCL

Dear Dr Simmonds

Notification of Ethical Approval
Project ID: 6159/201: The social network of urban and peri-urban agriculture and the transformation of livelihoods in Port Harcourt City Nigeria between 1999-2014

In my capacity as Chair of the UCL Research Ethics Committee I am pleased to confirm that I have approved your study for the duration of the project i.e. until May 2016.

Approval is subject to the following conditions:

1. You must seek Chair’s approval for proposed amendments to the research for which this approval has been given. Ethical approval is specific to this project and must not be treated as applicable to research of a similar nature. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing the ‘Amendment Approval Request Form’:

2. It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. Both non-serious and serious adverse events must be reported.

   Reporting Non-Serious Adverse Events
   For non-serious adverse events you will need to inform Helen Dougal, Ethics Committee Administrator (ethics@ucl.ac.uk), within ten days of an adverse incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Chair or Vice-Chair of the Ethics Committee will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

   Reporting Serious Adverse Events
   The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator immediately the incident occurs. Where the adverse incident is unexpected and serious, the Chair or Vice-Chair will decide whether the study should be terminated pending the opinion of an independent expert. The adverse event will be considered at the next Committee meeting and a decision will be made on the need to change the information leaflet and/or study protocol.

On completion of the research you must submit a brief report (a maximum of two sides of A4) of your findings/concluding comments to the Committee, which includes in particular issues relating to the ethical implications of the research.
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UPH/FSS/GEM/11 Date 5th March, 2015

TO WHOM IT MAY CONCERN

I wish to state categorically that I have had an opportunity to discuss with Gbenekanu Ledornu Mpigi about his research and I have picked interest in it. I have lectured him in some course modules during his undergraduate degree programme with us. Within this period, he proved to be an intelligent, teachable, responsible and honest student.

I therefore undertake to guide him in his research endeavor in Nigeria and to discuss all ethical issues relating to his fieldwork here in PHC and to assist where need be to obtain ethical clearance. Please Kindly give him a place as well as necessary assistance to make this a reality.

Yours faithfully

DR C. H. WIZOR, FCIA
SENIOR LECTURER/ENVIRONMENTAL CONSULTANT
Appendix 6: Three Phases of Development in Nigeria and how it affected Urban Agriculture in the Country

Three Phases of Development in the Global South and urban Agriculture Definition

1. The Structural Adjustment Programme Phase in Nigeria
The imposition of Structural Adjustment Policies to countries in the global south in the 1980s led to the observation of new forms of urban poverty and had significant consequences for food production and supply. Igbedioh (1993) argued that food supply and production became more exposed to the volatilities of distant economic forces. Easterly (2005) said urban life became more precarious for a range of different people who had hitherto been relatively secure. On her part, Shimada (1999) said many people lost their employment or were thrown into less advantageous economic positions. Tambwe et al., (2011) concluded that urban agriculture became a means of securing a degree of self-sufficiency among the locals in the global south cities affected during this period of structural adjustment programmes.

NWAGBARA (2011) argued that in general agriculture, SAPs meant the dismantling of mechanisms meant to support and protect domestic agriculture from unfair competition. Chilowa (1998) argued that agriculture subsidies were drastically withdrawn and removed, regulation of domestic trade of important commodities was abandoned, state food trading and distribution companies were privatised. Also, during this period, Ekpenyong (1995) argued that import controls on agriculture products were dismantled and tariffs were reduced encouraging importation of basic foodstuffs. Eke-okoro and Njoku (2012) further said that this led to more production of export-oriented crops in the rural areas on the one hand and forceful eviction of urban farmers on the other. Falade & Akingbala (2010) concluded that more significantly, local dietary needs of the local people were not among the food imported into these countries and this encourages the urban households to keep fate with UA.

According to Adedeji (1999), policies of SAPs further entrenched commercial export-oriented agriculture production to the detriment of domestic food production and urban agriculture. Igbedioh (1993) argued that farmers that produces food for local
consumption were encouraged to go into cash crops for export than feeding the city. The three pillars of the WTO; market access, domestic support and export subsidies attest to the lopsided nature of the agreement (Ravallion & Bank, 2003 and Verick, 2012). Under market access, the agreement provides for tariff cuts on all agricultural products together with a minimum access volume for all agricultural products even if the country does not actually need to import. The agreement prohibits subsidies to agricultural crops beyond ten percent of the value. It also exempts much of the subsidies of the developed countries through the ‘amber box’ (slow down/reduced) and ‘the blue box’ relating to subsidies that are tied to programmes that limit production or growth.

Anyanwu (1992) argued that the strategy of implementation of the SAPs’ policies involves the mobilisation of plant and animal resources within a food policy for these countries. Tambwe et al., (2011) said during this period, food policies were expected to provide sufficiency and boost export but failed to address local food requirements. Nasrudin et al., (2011) further said people were encouraged to take to UA as it was the main source of provision of local food stuffs such as the by-products of cassava (Garri, Fufu, Tapioka) that were not imported during this era. These local food requirements were probably not recognised internationally but the areas of involvements of this policy were: seed marketing, land clearing, control of soil erosion, rural integrated projects and development of grazing reserves. These were all with the aim of self-sufficiency in food production within five years. Despite this aim, Lynch, Binns, & Olofin (2001) argued that majority of poor urban households were made to relocate\(^\text{40}\) to the rural areas to increase their production as their urban lands were in demands for other urban commercial needs.

Under the Structural Adjustment Program (SAP) introduced in 1986-1992, countries reformed its foreign exchange system, businesses and agricultural regulations. According to the World Bank (2007), these changes brought economic incentives in line with the country’s underlying comparative advantage. Under the new policies, gross domestic product broke a six-year pattern of decline to grow by 5 percent a year throughout the six-year period. Odularu (2008) said because over 90 percent of export

\(^{40}\) Policies that took over their urban lands were introduced and the outcome was households relocating to the rural and peri-urban areas to continue food production.
earnings are from oil in some countries, growth in agriculture and manufacturing could counterbalance little of the large drop in revenue that resulted from the collapse of oil export revenues that had prompted the adoption of the SAP. The World Bank estimated that, it will take about 30 years for some of these countries to recover its peak standard of living (achieved in 1981) from its low point at the start of the SAP. But 34 years on (2015), some of the countries is back in recession, exchange rate is to a dollar which was low during the SAPs increased and urban agriculture is yet to be incorporated into city planning. Although, people were forced to relocate to the rural areas to continue production, location plays an important role in the definition of urban agriculture in this phase.

2. The Era of Introducing the Concept of UA and its Place in the Urban Fabrics.

The second phase in the definition of urban agriculture can be seen as an attempt by the researchers and intervention planners to define it more precisely and thus provide more traction on policy agendas concerned with the urban poor. Nasr (2001) said this phase witnessed the coming together of development agencies and regional government institutions with the primary aim of providing intervention for the urban poor in the global south. Cofie et al., (2003) argued that UA is locally based in the city, making use of low input in terms of production, driven by the grassroot (bottom-up) and most especially practice informally in the urban global south compared to rural and mechanised agriculture. This phase of defining UA, made it clear that food production can be practice anywhere (urban, peri-urban or rural), considering factors that make such practice viable and comfortable for the workers and other users of such environment. Those factors, according to Mawois et al., (2011), includes the built environment, labour relations, access to market, access to financing will be discussed in details under the features of UA.

The implication for policy purposes of this period of understanding UA is that researchers such as Smit & Nasr (1992) ware able to critique the concept of a rural-urban “divide”. They said the notion (rural-urban divide) should be replaced with the diverse human habitats represented by a continuum of food productions capacities. That the “divide” that defines where food can or should be produced is a failed idea of the formulators that should be replaced with continuum of food productions capacities located in more and less built spaces. Noting that the minor changes done to expertise
in UA and its ability to provide fresh food to the urban population makes it different from other types of agriculture. Mougeot (2006) argued that the changes done to urban agriculture has made intervention planners to focus on the gains of UA in addressing urban poverty in cities of the global south.

This phase of defining UA produce a concept that reimagines urban landscapes with spaces for food production weaving through the more and less build-up fabrics of urbanised areas. Although, policies and land use planning in some cities of the global south are yet to formally incorporated UA into the development plans of such cities, people are practicing UA in it. From other cities there is a plan for a buffer zone for UA and that agrees with this phase of defining urban agriculture. Urban agriculture is already in operation in most of the cities of the global south, meaning they have started reimagining the place of food in the city. If the remaining can borrow the ideas and incorporate them into its urban development plan, then UA workers will have the sense of security and dream of commodification. This phase of definition of urban agriculture, considered the location and marketing of UA produce with the built environment and argued that where food is produced should not be an obstacle but should be replaced with a continuum of food production capacities.


This is the phase where the development agencies and regional government institutions have shown more concern to UA especially in the global south. This phase saw the ILO project-2010 aimed at understanding the role of UA in reduction of poverty and decent work, acknowledging the work of Smit & Nasr (1992). In this phase, the urban landscape with space for food production was acknowledged but go further to promote UA based on the principles of decent work and sustainable livelihoods (ILO, 2013). The value chain of UA (production, processing, marketing/distribution, consumption and recycling) was defined in this phase. Thorough consideration was giving to what UA brings to the city and its dwellers and thus the value chain of UA was spelt out in their definition when they defined UA as:

41 Commodification in urban agriculture of Port Harcourt City is to add value to products produced from the farms and that makes farmers make more profit than when they are sold to third parties directly.
“An **industry** located within (intra-urban) or on the fringe (peri-urban) of a town, an urban centre, a city or metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, reusing mainly human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services to that urban area (ILO, 2013 and Mougeot, 2000).

The debates in this section signal that there are debates around UA, whether it is a livelihood strategy, coping strategy, industry or it is a generative process. The term ‘**industry**’ used in this definition to frame UA negates the hitherto negative perception of those against UA as an urban livelihood strategy (ILO, 2013 and Mougeot, 2006). This framing (industry) presents UA as valuable component of urban life and not just a ‘coping strategy. Accordingly, Adedeji & Ademiluyi (2009) argued that UA that started as just a coping strategy has now evolved into an industry that is providing informal jobs, increasing household finance and reducing poverty in most of the cities in the urban global south. In the same manner Ezedinma & Chukuezi (1999) said the growing (evolving) of urban agriculture in some cities of the global south shows that the future of this industry is here to stay. Although the presence of UA can be seen in most Nigerian cities, vulnerabilities that range from insecurity of land to difficulties in securing credit still hinders its growth. Therefore, harnessing this urban livelihood strategy to meet the desired goals it is designed for will be key to this research. Laird (2010) argued that researches are designed to add value to the lives of the people studied in the research and in my research, urban households will benefit significantly if urban agriculture is incorporated into the economic plans.

In my view, all these phases of understanding of UA as explained in the paragraphs above acknowledged the fact that UA is locally based\(^\text{42}\) (bottom-up). Have a clear value chain (production to recycling), different from rural agriculture because it is based in the city and on its edges and mechanised agriculture because of its usage of low inputs. Rural agriculture is based in the rural areas, mechanised agriculture makes use of high inputs, including specialised systems. These three debates of defining UA have shortcomings, which came out of a minimal engagement of the difference made by the city and its fabrics. For example, UA in some cities are both land and river based and the motivations and incentives of an urban agriculture worker in cities of

\(^{42}\) The practice of urban agriculture is driving by the people living around where it is based and it produce are supplied to people that are within the area where it is practiced.
the global south is different from someone in the north. This study has built on these definitions and I am therefore suggesting (but not abandoning the rest) that to understand UA as a livelihood strategy for the urban poor, it should be characterised with the features of UA. This research has been able to classify urban agriculture and made it clear the type of urban agriculture (small-scale urban farming) it is focusing on, therefore defining what that is will be next.