Universiteit Utrecht
Faculty of Geosciences

(Oranjezicht City Farm, 2017)

MASTER THESIS

Motivations & Outcomes of Urban Agriculture in Cape Town, South Africa

A comparative study of three projects in areas with different land rents

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Abstract:

Academic interest in urban agriculture (UA) has been steadily growing over the last twenty years. It can be considered as a diverse tool that can be applied to different contexts in both the developing and the developed world. Several authors (Battersby & Marshak, 2013; McClintock, 2010; Olivier & Heinecken, 2017) have pointed to a potential divide occurring within UA literature. Battersby & Marshak refer to this as the North-South paradigm (2013). Within this paradigm, a major factor in understanding different reasons for UA involvement is wealth. The general notion is that communities engage in UA for either security or fulfilment needs, producing different livelihood outcomes. This thesis is a comparative study to analyse the role of wealth in the form of land rents plays in UA within the setting of Cape Town, South Africa. It seeks to understand the extent to which land rents can be considered an explanation for different motivations to participate in UA and its similarly distinct effects on livelihoods. The study was carried out at three research sites in Cape Town. Due to South Africa's history of apartheid, social and economic inequality has a strong geographic factor. The choice for the three sites was based on areas with distinctly different land values and communities with different socioeconomic background. This allowing for comparisons to be draw as to their motivations and outcomes for UA engagement.

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1. Outline

1.1 Introduction

Agricultural activities have always existed in some form within urban environments, whether it be holding chickens in the garden, growing vegetables on a window sill or cultivating a small patch of land. In the last 20 years the benefits associated with urban agriculture (UA) have begun to be realised as a topic of academic interest, both within the developed and the developing world (WinklerPrins, 2017). Some parts of this focus within research and can be linked to growing environmental awareness, a rejection of the industrial food production processes in favour of the small and local and an overall search for more sustainable practices within the urbanized world (Mougeout, 2006; Veenhuizen, 2006). While this may seem a romanticised image of pre-industrial life, the reality is that most modern, developed cities are fed on a large variety of unseasonal food, often travelling hundreds or even thousands of kilometres in the 'farm-to-fork' process (Deelstra & Girardet: 2000). Modern, industrial food processes have become increasingly disconnected from many inhabitants in cities and as they are removed from the sources of their food, it leaves them unaware of the resources, labour and time associated with it (McClintock: 2010). In creating sustainable cities of the future, it is essential to understand how our food is produced, what resources are required and what actions can be taken to lessen our impact. UA can be considered an intuitive answer to the food questions of future societies.

In Cape Town, urban agriculture has always existed in some form due to its historic role as a naval supply station and its low urban density brought about as a legacy of Apartheid (Thompson, 2014; Kay, 2007). During the Apartheid era, large tracts of land were left vacant as barriers to separate different social and ethnic groups (ibid). The land has since either been built upon, left vacant and increasingly cultivated, building an interesting case for studying UA. The era of apartheid and its divides based on race has left a specific spatial dimension regarding socioeconomic and racial distribution of the city, where the division still (informally) continue to exist. The UA potential in Cape Town has been widely acknowledged, with promotion at a municipal level and from several NGO's and NPO's operating in the city seeking to set up UA projects. This has simultaneously drawn a large amount of academic interest, domestically at the University of Cape Town and its African Centre for Cities, and also from a variety of international organisations and institutions, such as Humboldt University Berlin, and the UN Food and Agricultural Organisation (FAO).

However, UA has also been criticised in several regards. Examples can be found regarding its limitations in scope and efficiency (e.g. Rogerson, 1993; Badami & Ramankutty, 2015). In recent years, there have been several authors pointing at a divide in the existing literature about UA, which have little interaction with each other (e.g. Battersby & Marshak, 2013; WinklerPrins, 2017). Within this divided literature, one strand focuses more on the 'developed' North where UA can be seen as a form of activism and way of challenging an unsustainable status quo (ibid). The other side of UA literature has been mostly linked to development studies, leading to a 'developing' South strand, where UA is seen as a development tool that is to be abandoned upon reaching a higher level of development (ibid).

Within the South African context, Haysom & Battersby (2016), at the African Centre for Cities, argue along this line that UA is being put forward by governmental institutions that hold limited budgets, moving the responsibilities of the welfare state to the poor themselves; by allowing and promoting those from less stable socioeconomic backgrounds to cultivate certain areas, the government can shift away from bearing the responsibility for food security and provision. In addition, it has also been argued to act as a form of wage suppression pushing employers to pay their employees less as the percentage of income going towards food is reduced through UA (McClintock, 2010). Finally, governments in developing countries have focused on UA as a policy for increasing urban food security. Yet, the impact of this in research done by Badami and Ramankutty (2015) was shown to be minimal, with UA ever only able to play a small part in increasing food security. This links to overall arguments regarding the limitations on the quantity of crops that can be produced within the urban area, which are currently not realistically able to compete with the large scale of traditional, commercial agriculture (Zezza & Tasciotti, 2010). Such criticisms highlight the limits of UA and are to be taken into account as much as its positive sides in studies considering UA.

This thesis aims at contributing to the existing UA literature, by focusing on the role of land rents in understanding UA engagement within the case of Cape Town. Considering that UA is found in parts of the world that are in different in levels of development, it is interesting to look deeper into what drives people to UA, particularly taking into account the value of land. It is important to note that the data of this study is mostly of a qualitative nature, which makes it inherently impossible to generalize its results (Cresswell & Poth, 2017). This thesis is therefore not able to draw valid conclusions for all urban agriculture. However, understanding the underlying reasons and motivations of those participating in UA in areas with different land rents can help future studies in understanding the drivers of UA participation. Taking this comparative perspective is useful as it allows understanding why people engage in UA in-depth as well as using the comparison as a means to see patterns or categories as found within the chosen theories.

Each of the research sites have their own characteristics, which can be expected to shape the engagement in UA. The main focus points to study in this regard have been identified as follows; (a) differences in land rent, (b) motivations to engage in UA as being more fulfilment or security focused, and (c) outcomes derived from engaging in UA, exemplified in different capitals (human, social, natural, financial, physical). Overall, the thesis seeks to understand what differences and what similarities exist between the research areas that have different land rents. Cape Town's strongly spatially determined socioeconomic and racial distribution provides an indirect tool to explore the role of different socioeconomic backgrounds. In the larger scheme, this thesis aims to contribute to the understanding of how UA can be used as a policy tool, principally in the areas of environmental policy, social policy, economic and food security, by taking into account the stories of those directly engaging in it.

1.2 Defining Urban Agriculture

Defining UA is difficult for two reasons: the first being its application which can vary from growing a tomato in a pot to cultivating a plot of derelict land. The second is what is urban and where does the urban boundary lie. Mougeot (2000) provides a widely accepted definition that has since its introduction been used by the FAO. It states: "Urban agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a

metropolis, which grows and raises, processes and distributes a diversity of food and non-food products, (re-)using largely 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 largely to that urban area." (Mougeot: 2000, p.10). To overcome the definitional issues, it is common to adopt the definition of urban as set by the respective authority for the area of interest. In this case, the official definition given by the municipality of Cape Town, which states UA to be: "[...] the production, processing, marketing and distribution of crops and animals and products from these in an urban environment using resources available in that urban area for the benefit largely of residents from that area". (City of Cape Town: 2007). Both definitions illustrate a focus on producing agricultural products within the fringes of the urban boundary for the urban population within that boundary. Therefore, this thesis uses the boundary as set by the city of Cape Town in combination with the characteristics present here of UA as the boundaries this concept.

A few further characteristics of UA are worth noting. Firstly, the application of UA "can be an integral component of income and employment strategies, while also building more self-reliant local food supply systems" (Mougeot, 2005: p.8). There are also few barriers for those who wish to enter in UA, with the benefit of protecting individuals and communities against social, economic and environmental shocks that may happen outside of their sphere of influence (Nugent, 2000). Much of how UA is carried out can be broken down into three distinct tiers: home gardening, community or groups gardening and market gardening. Each differs in size, scale and complexity along with the returns that individuals may receive for their produce. Lastly, unitisation of resources within or close to the urban boundary for UA that could be interpreted as a semi-closed production cycle (waste of nutrients to produce to waste). This must be on a scale that provides produce to more than the individual that is producing it and thus shared to those existing within the urban boundary.

1.3 Knowledge Gap

UA can be found throughout the world and for many different reasons, ranging from tackling climate change, greening urban areas, providing food security and building social harmony (Mok et. al., 2014; and Hamilton et. al., 2014). Benefits and motivations of engaging in UA have been divided along the lines of academic disciplines, which can be linked to a division between the 'developed' and 'developing' countries as stated by WinklerPrins (2017). Battersby & Marshak (2013) refer to this as the North-South paradigm, in which the literature in regarding the North (the 'developed' world) principally focuses on the social benefits of UA and the literature regarding the South (the 'developing' world) looks more at the economic benefits. The divide has resulted in "[...] two strands of research on growing food in cities – southern urban agriculture and northern community greening and gardening – have existed largely independent of one another" (ibid: 448). These two differing strands reflect current UA research; with the Southern side focusing on UA as a development tool seeking food security and poverty reduction (ibid). In contrast, the Northern side looking at social benefits for individuals and communities, through addressing social divides, acting as an educational tool and strengthening local communities (ibid). As there is such an extensive body of UA literature (see for example Bruinsma & Hertog, 2003), it is not unsurprising that not every article or study is referenced or considered for each new study on UA. However, the divide leads for the two sides of the research to be disengaged from one another. This means that

rather than building and challenging each other, leading to stronger understanding of UA in general; they seem separated and oblivious to one another.

For the Southern side of the literature, UA has traditionally been used to as a development tool to create resilience to shocks, nutrition and income (Hamilton et. al., 2013; Lee-Smith, 2010; Frayne et. al., 2014). In this regard, UA is seen to act as a tool, "resilient to economic downturns, and it contributes to cities' economic development. Being labour intensive, market gardening creates employment directly in production – by one calculation, one job for every 110 sq m – as well as in input supply, marketing and value-addition" (FAO, 2012: 17). Often, for governments in developing countries, it is the primary policy for food security, with its implementation being supported by the work of NGOs (Haysom & Battersby, 2016). This has the effect of reducing the percentage of income going towards food, increasing food security and attributing positive environmental benefits to the local surrounding (Madhav & Badami, 2014). Focused on these aspects of UA, researchers involved in this side of the research have often not taken into consideration benefits of a social nature, seeing UA as a challenge to the status quo or industrial food systems, which is more recognised in the Northern side of the literature.

This literature side mostly focuses on cases in the West, the 'developed' world, and sees UA as being historically popular during times of crisis (Hoi-Fei et. al., 2013; Hamilton et. al., 2014). Traditionally, this has strong social connotations and UA was "typically [...] organised by upper and middle-class reformers to achieve the moral, cultural and aesthetic uplift of poor and working-class people" (Pudup, 2008: p.1230). Examples can be found in Ebenezer Howard's garden cities that specifically allocated space for allotments in which its residents had space to grow their own food (Battersby & Marshak, 2013). The Victory Gardens are another, later, example, taking place in most of the major powers involved during the First World War. A similar exercise existed during the Second World War, popularised by the Dig For Victory campaign in Britain. The UA taking place during these periods was often in response to food shortages, yet simultaneously used to raise public moral by directly involving them in the war effort (Hoi-Fei et. al, 2013). Since the 1970s the terminology of UA had shifted more to the idea of community gardens. Community gardens are regarded as providing places for disenfranchised individuals to "gather, network and identify together as residents of a neighbourhood" (Glover, 2003: p.192). Today, it is also increasingly being used as a tool to green urban areas, tackle the growing obesity epidemic and a platform to which those in urban areas can reconnect with nature (Pudup, 2008).

However, it can be argued that these benefits and focus points could be used interchangeably for both the 'developing' and 'developed' world and that the literature on both sides would be benefited by more exchange of ideas. This can be illustrated by referring to what is often called a 'food desert', which has gained increasing recognition in the United States. This term refers to areas with "poor access to healthy and affordable food through lack of physical ability, financial means or knowledge" (Mok et al., 2013: p.24). Those most vulnerable to the effects of food deserts tend to be from low-income or ethnic minority backgrounds (ibid). It is in these areas that several community gardens have been set up to increase food access such as *Just Food* in New York, *Grow Good* in Los Angeles and *Foodshare* in Toronto. While most current literature on food deserts has focused on North America, it is not inconceivable for a similar experience to be had elsewhere. Many other 'developed' countries could be

expected to use similar, less academically recognised, strategies to manage food access. Examples of this could be through the existence of allotments in many cities in the United Kingdom. Thus, this provides evidence of the Southern strand's research focus that could also be applied to the Northern strand. While in the developing world, there is evidence of the social benefits playing an important role for UA in the developing world. These are principally through the building of social capital, which can help in: protecting against volatile market forces, the sharing of knowledge, empowering women and easing access to credit, land or relevant agricultural institutions (Orsini et al., 2013: p.702). A study done in Kibera slums of Nairobi on social capital within UA supports this. Through "demonstrating that by helping to improve social capital, sack gardening has helped farmers to strengthen the social safety nets that help to provide them with assistance in times of need" (Gallaher et al., 2013: p.402). This gives an interesting overview of the social benefits associated with UA, which sees social capital being used more as a broader survival strategy. Nevertheless, these two examples, although showing the potential interchangeability between the two sides, simultaneously supports the existence of a North-South divide in UA literature.

A key feature illustrated by the North-South Divide in UA literature (Battersby & Marshak, 2013) is wealth or level of development in a traditional sense, which can be argued to play a role in determining what the underlying reasons and benefits gained are for engaging in UA. The intention of this thesis is to use this general idea of wealth as a factor in UA by theorizing on the role of land value. Such value will influence land use according to popular theory (e.g. Von Thunen as described in Schwartz, 2009). This will have particular impacts for UA, which are sought to be explored in this study. It will firstly focus on whether UA is being used for social or commercial enterprise. Secondly, explore different UA communities from different socioeconomic backgrounds in Cape Town are motivated to participate in UA. Finally, how UA facilitates the building of different livelihood capitals (human, physical, natural, financial and social) for these communities. The reason for choosing Cape Town is due to the extreme levels of inequality that exists as a part of its apartheid legacy, that sees the city geographically socially and culturally divided.

1.5 Research question and sub-questions

The high levels of inequality between different areas of Cape Town present a unique opportunity for a comparative study of UA, and understanding the poorer and wealthier parts of Cape Town and their engagement in UA. It is interesting to look at the role that socioeconomic backgrounds and differing land values play in engaging in UA. Linking this to theories regarding motivations to engage in UA and the outcomes or gains derived from UA. Again, it should be noted that the data of this study mainly qualitative and therefore does not allow for generalization. However, the in-depth understanding that this type of data provides, allows to strongly read into motivations and drivers for people to engage in UA. This can form an interesting base for further research, particularly when theorizing why people choose to farm the city (McClintock, 2010). This is partially inspired by the broader debates in the literature, such as the North-South paradigm put forward by Battersby and Marshak (2013), which leads to the expectation that there is a degree of overlap in UA motivations between research sites. The significance of this research is thus in its comparative and in-depth focus and the parameters are presented below in the research questions below.

<u>Research Question</u>

How do three urban agricultural projects in Cape Town compare regarding land rents, motivations, and outcomes?

<u>Sub-questions</u>

a) How do the three UA projects in Cape Town compare on land rent prices?
b) How do the three UA projects in Cape Town compare on motivations to engage in UA?
c) How does engagement in UA impact on livelihood capitals for the three UA projects in Cape Town?

More broadly, this thesis aims to expand the understanding of why communities initially get involved with UA and what broader benefits are derived from it. In order for UA to take place, land, motivations and outcomes are important factors in understanding the objectives of a UA project and what effect it is likely to have for its members and surrounding community. Existing literature UA literature has traditionally focused on dividing the motivations and outcomes into the two tiers of security and fulfilment. However, this is expected to be more interchangeable as authors are calling for more research that goes beyond the North-South Divide (McClintock, 2010; WinklerPrins, 2017). It is this literature that this study will hopefully contribute to, by looking at three different projects in one geographic case.

2. Theoretical Framework

This chapter provides the framework for the concepts making up the basis of this research as well as possible expectations for the results. Battersby & Marshak's arguments regarding the existence of a North-South divide in the literature was the theoretical starting point. The paradigm according to Battersby & Marshak suggests that reasons for engagement in UA has been divided between developed and developing countries (according to indicators used by organisations such as the UN and World Bank). Other authors have further expanded on this theory (see specifically the work of WinklerPrins, 2017). In the past decade this has included the development of theories seeking to understand the interest in UA in different parts of the world (e.g. McClintock, 2010). This thesis does not pretend to be able to study the full divide, being a MSc thesis. However, it does seek to modestly contribute to the work of these authors in arguing that understanding UA in the Global North and UA in the Global South have shared as well as distinct features. This contribution is mostly based whether you see UA as a survival strategy or a means of fulfilment, which can be theoretically be linked to the wealth through land rents and to a less extent the socioeconomic background of the participants.

Considering the research question, the objectives of this research are broken into several parts. Firstly, it seeks to look at the role of land prices and rents for UA in Cape Town. Secondly, deriving from the literature on the divide, it looks at differences in reasons for participation (i.e. motivations) in UA between the poorer and wealthier parts of Cape Town. Thirdly, the implications of participation in UA on livelihoods (i.e. outcomes). Several theoretical approaches can be linked to these objectives, forming the theoretical basis of the thesis. The *Bid-Rent Theory* proposes that land rents are expected to increase in value the closer to the Central Business District (CBD) they are located. As a result, UA practices and reasons for engaging in UA are likely to change depending on its distance to the city centre.

This, in addition to socioeconomic backgrounds, is also likely to have an impact on UA participation. Maslow's *Needs Hierarchy Theory* and was used to help in understanding the psychology of motivation that can be applied within this context of UA. Furthermore, McClintock's *Metabolic Rift* was used to cover the more radical motivations and outcomes that correspond with UA. In testing this, inspiration will be taken from the ideas of Amartya Sen's Development as Freedom as a reason for looking at other capitals other than wealth. This will be placed in the context of the *Sustainable Livelihood Approach* to determine how UA may have enhanced certain capitals and how this influences motivations. This chapter will describe each of these theories in further detail as well as discuss their significance to the research.

2.1 Alonso's Bid-Rent Theory

The Spatial layout of land rents within Cape Town is an important factor in determining the land uses in different parts of the city. Alonso's Bid-Rent Theory (1964) will be used as a theoretical approach to understand how land use changes the further away from the CBD the respective land is located. This theory has primarily been used to understand why different retail, industrial or residential areas are located in different parts of a city (ibid). However, such reasoning can also be applied to UA. This is based on the principle that the price of land dictates the reasons and practices of UA in different parts of Cape Town, with land generally being cheaper as you move further away from the CBD. For Alonso's Bid-Rent Theory, this can also be placed in a commercial sense with the scale of crop production intensity decreasing as land is located further away from the CBD. Due to the social dimensions of the research and UA in general, it is interesting to see how land rents affect the focus of UA as being more socially or commercially focused projects.

The foundations of the bid-rent theory are inspired by Von Thunen's ring theory (1826) as set out in his book *The Isolated State*. This looked at how agricultural practices changed as as land was removed further from an urban area, arguing that agricultural intensity would decrease as land becomes cheaper and thus crop production would change. A key feature of this theory was the assumption that the area in and around the city was located on the flat planes with a central core and no physical barriers in place. This idea was incorporated by Alonso, along with the notions of transport being spread out evenly throughout the city and the city being populated by rational individuals (Alonso, 1960). Alonso argues that industry (whether in agricultural or other forms) would choose a location that was balanced between the cost of land rent to the cost of getting their goods to the consumer. For UA, this would mean choosing to produce foods or products with a limited shelf life and/or requiring little space or resources to be able to be produced closer to the consumers (i.e. closer to the CBD). Simultaneously, crops that are staples such as potatoes, corn or wheat, tend to have a longer shelf life and require more resources to grow and be profitable, would be produced further from its consumers (i.e. further from the CBD). Thus, those farms located close to the CBD would generally have higher land rents but lower transport costs, while those located further away would have lower land rents and higher transport costs.

The Bid-Rent theory however is not without several flaws and limitations. The most obvious of these being the idea of the city being set on a flat and featureless plane, with transport

spread out evenly throughout. This, in reality, is not possible for cities, which have both natural and/or physical barriers existing in some form within and surrounding them. In addition, Alonso also states that the city is inhabited by rational individuals, as set out in classical Rational Choice Theory. Such theories can be critically perceived as human beings do not always act in a rational manner (Nell & Hollis, 1975). Harvey (1973) also argues the historical inflexible nature of urban areas once they have been built. Here he argues "the urban area built up sequentially over a period of time and activities and people take up their positions in the urban system sequentially. Once located, activities tend to be particularly difficult to move" (Harvey, 1973: 167). This means that with a change in circumstances, while the rational choices would be to move to a more favourable location, in reality this is not always possible. Finally, the theory focuses on the idea of there being a single central point to the city. This monocentric urban model is no longer valid for most of the world's major cities with a polycentric layout becoming increasingly prevalent (White, 1999; Arribas-bel et. al., 2014). This makes it difficult to define where the true centre of a city really is and also understand the new relationship between the different centres of a polycentric layout.

For the case of this research, regardless of its flaws the theory provides a good background to how urban activities change in relation to land rents. In the case of Cape Town, there is a single defined CBD in the City Bowl, from which point land rents gradually decrease as you move further away from the urban centre. In this regard, it is interesting to see how the gradual lowering of land rents affect urban agricultural activities. This could either be through looking at what is grown at each if the research sites or what are the main purposes in engaging in UA. The latter is more relevant to this research as it can be linked to motivations and outcomes for UA engagement. In this regards UA engagement can either be seen from a social (fulfilment) or commercial (security) standpoint. Thus, considering the initial research question, it can be expected that UA will be more socially focused the closer to the CBD it is located and more commercially focused the further away from the CBD it is located.

2.2 Maslow's Need Hierarchy Theory

The *Need Hierarchy Theory* is used as a basis to understand why an individual might be motivated to participate in UA in relation to what needs have been fulfilled and what may still be lacking. The appeal of this theory is that it "provides both a theory of human motives by classifying basic human needs in a theory of human motivation that relates to these general needs to general behaviour" (Wahba & Bridwell, 1976: 213). This is clearly set out in order of the rudimentary to the complex which can be placed along conveniently alongside a scale of wealth. The fundamentals of this theory will be discussed in the following section.

The hierarchy of needs is broken up into five distinct categories (see figure 1) in the order of physiological needs, safety needs, belonging and love needs, esteem needs and self-actualisation needs (Maslow, 1970: 35-47). Once each of these needs has been fulfilled the individual (or 'organism' as Maslow states) will then move onto the next until the final need of self-actualisation is encountered and of in which case can continue indefinitely (ibid).

These different needs can be broken down further into two criteria of growth and deficiency needs. Growth needs are seen to take place at the upper end of the pyramid once all the low deficiency needs have been fulfilled. This according to Maslow allows for an alteration in behaviour away from meet basic social and physical needs to one where personal fulfilment is achieved through seeking accomplishment and following passions (Maslow, 1970: 59). This scale provides a useful theoretical background when applied to UA in understanding why individuals might be motivated into participating and what implications are derived from it.
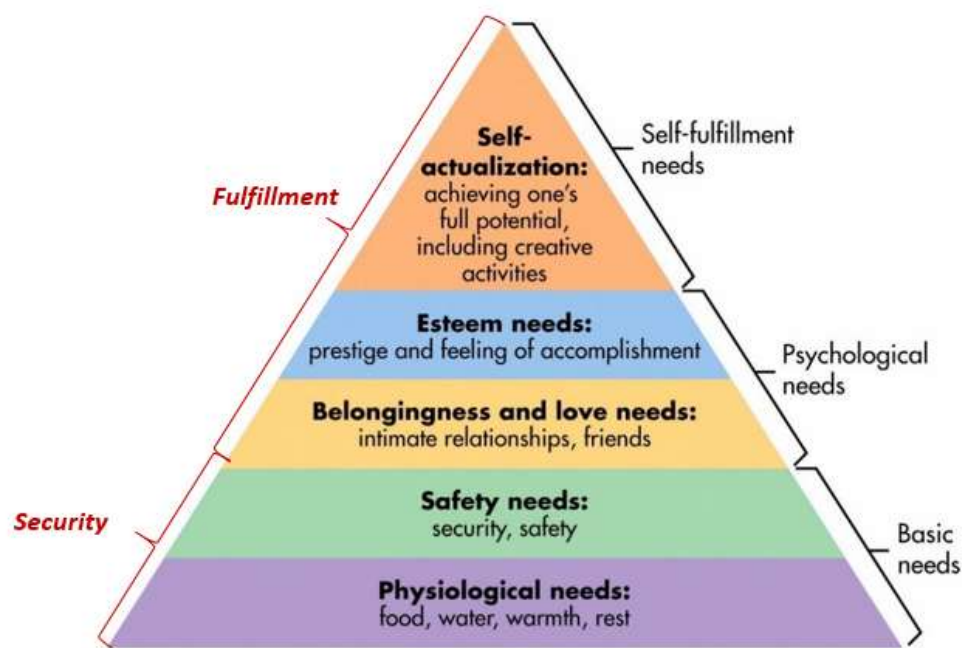

Figure 1: Maslow's Need Hierarchy (McLeod, 2017)

The *Easterlin Paradox* supports much of the theoretical basis set out by the Need Hierarchy Theory while moving beyond this in trying to understand the relationship between happiness and wealth further (Easterlin et.al, 2010). The principles of this theory argue that once the basic needs have been achieved (see figure 1), the role of wealth in achieving overall happiness is limited or even nonexistent (Easterlin, 1974). Rather "once an individual rises above a poverty line or subsistence level the main source of increased well-being is not income but rather friends and a good family life" (Clark, Frijters & Shields, 2008: p.96). Thus, it is reasonable to assume that wealth can be a catalyst for motivation in two ways; firstly, in the fulfilment of the basic needs; and secondly, once the desired wealth to happiness ratio has been achieved, a motivation to go in search of other reasons such as psychological and fulfilment needs (i.e. moving further up the pyramid).

The *Need Hierarchy Theory* and the *Easterlin Paradox* can be considered as providing a theoretical understanding of the motivations different individuals have to engage in UA. For example, this could be for reasons of food security, social well-being or needs of personal fulfilment. Due to the differing degrees of wealth in Cape Town (see Chapter 3) and land rents, it can be expected that motivations for engagement in UA will differ between security

or fulfilment. The idea of understanding security and fulfilment as parameters for motivations is set around Maslow's Needs Hierarchy pyramid as well as linked to the ideas of the North-South Divide (Battersby and Marshak, 2013). In the context of the Needs Hierarchy pyramid, the psychological and self-fulfilment needs will be placed in a general fulfilment parameter when establishing motivations. The basic needs will thus, be placed in the context UA motivation in relation to security. The reasoning for separating it in this way is due to the divide that the paradigm describes with those from poorer countries mainly using UA as a means on income and sustenance. While those from wealthy countries engage in UA for social and fulfilment benefits. These can then be applied to the Sustainable Livelihood Framework, to see how these motivations have influenced the building of different types of capital.

2.3 McClintock's Metabolic Rift

The Metabolic Rift provides a secondary theoretical background to what the potential motivations could be for engaging in UA and the way that UA can be used to overcome these rifts. Much of the ideas to the Metabolic Rift are inspired by the writings of Marx in criticising the unsustainable tendencies of capitalism. Here the continued growth of capitalist wealth accumulation "produces conditions that provoke an irreparable rift in the interdependent process of social metabolism, a metabolism prescribed by the natural laws of life itself" (Marx as quoted in McClintock, 2010: 193). Thus, the basic argument follows that the expansion of capitalism has caused humans to become disconnected from nature, creating a rift between our lives and natural processes of nature known as the Metabolic Rift. McClintock (2010) breaks this rift down into three forms, which shall be explained below.

The ecological rift argues that the unrelenting expansion of capitalism has created a rift between the rural and the urban settings, humans and nature. McClintock (2010: p.193) describes this as, "in search of new spaces for ongoing accumulation, capital has also disrupted sustainable biophysical relationships such as nutrient cycles". Thus, the basic argument is that our mechanised way of farming has broken the natural cycles in nature, while also detaching us from the earth's natural processes. Thus, we are constantly trying to fix increasingly complex problems as they arise, relying on resources such as fossil fuels that are produced thousands of miles away from their point of use. To combat this "rescaling these nutrient cycles and reducing dependence on petroleum-based food production lie at the heart of UA potential to mitigate metabolic rift" (McClintock, 2010: 194).

The social rift has come about from "the commodification of land and the commodification of labour" (McClintock, 2010: 196). The commodification of land is the loss and privatisation of what was once communal land, limiting land ownership to a few, forcing mass migration to urban areas to find work. This is followed by the commodification of labour in urban areas to serve the needs of industry, while the rise of mechanised industrial farming further reduces the need for rural labour adding to this flow into urban regions. Thus, the cultural role of food and its production have slowly been eroded in the face of a readily available market-based agri-food system. As a counter-movement, McClintock argues that "UA attempts to mitigate social rift by de-commodifying land, labour and food" (McClintock, 2010: 200). Therefore, UA has the potential to reclaim and access resources (such as fresh and organic vegetables) that may have been limited to a few.

The individual rift argues that humans have become detached from nature and the products of their labour. This is the outcome of the ecological and social rift and is a lot more difficult to overcome due to pre-existing societal structures. However, McClintock argues that it can be addressed through the practice of UA as it gives an individual the power directly to connect with nature and see the fruits of their labour. In so doing "reintegrate the human with nature as well as de-alienating the labour from fruits of his or her labour" (McClintock 2010: p.202).

The Metabolic Rift can be used as a useful framework for understanding the beneficial outcomes for individual and society, both rich and poor, developed and undeveloped. Understanding this is important as it "not only helps to explain how and why UA arises in different parts of the world but may also reveal opportunities for its expansion as part of a growing network of local food system" (McClintock 2010: p203). It is also significant to highlight the process of overcoming these rifts linked to the thesis in understanding the motivation and outcomes for UA engagement. For the motivational aspect of the theory, it can be argued that individuals use UA to take control and overcome their place in each of these rifts. In the context of outcomes, overcoming the Metabolic Rift contributes to the building of different forms of capital. For instance, the ecological rift can be associated predominantly with a loss in natural capital, the social rift with a loss of physical and financial capital and the individual rift with a loss of human and social capital. Thus, the Metabolic Rift provides "an effective framework for differentiating UA's multiple origins and functions" (McClintock 2010: p.191) and what effect this has for those involved.

2.4 Amartya Sen

Much of Amartya Sen's work has focused on the ideas of expanding individual freedoms or agency as a part of development. Here, rather the capacity and freedom to pursue a way of life that adds purpose and value to the individual. In this sense giving them the power to develop in their own way in relation to their background, rather than being placed in a more traditional structured form of development.

2.4.1 Development as a Freedom

Sen's 1999 book argues that the traditional method of measuring development through GDP, modernisation or technological advancements does not give a true picture of development. Rather it is better to view development more broadly "as a process of expanding freedoms that people enjoy" (Sen, 1999: p.3) and removing major sources of unfreedoms that exist. While arguably the traditional forms of measuring development are important for the expansion of freedoms for individuals. This does not give the full picture of the factors that allow for GDP growth to take place. Thus, the true measure is more complex and relies on a high degree of different freedoms for individuals and society to progress.

Sen (1999) argues that freedom can be broken into two roles, constitutive and instrumental. These are both placed in the context that the main point of Sen that development is a process of expanding personal freedoms, with it being important both a process and a primary end to development. The constitutive role looks to "the importance of substantive freedoms in enriching human life" (Sen 1999: p.36) and thus sees an expansion of freedoms as an objective of development. These substantive freedoms can cover primary survival needs like access to food, clothing and shelter, or more complex needs such as literacy and political involvement.

From this perceptive, the expansion of these freedoms and other is central to the constitutive view of development and thus, could be summarised as developing within an individual's capabilities.

On the other hand, the instrumental role looks at freedom as a part of development. In this sense, it looks at "the way different kinds of right, opportunities and entitlements contribute to the expansion of human freedom in general and thus promote development" (Sen 1999: p.37). Sen breaks this down into five instrumental freedoms that are critical in the development process (Sen, 1999: p.38-40). The first of which looks at political freedoms and the ability to have a say in who governs, how they should govern and ability to choose between political parties. This can more simply be defined by living in a liberal democracy. The second, Economic Facilities follows along the lines of free-market economics with the ability to own produce and exchange resources at will. The third, social opportunities covering services that allow people to better their lives. Sen principally states this through healthcare and education. The fourth, transparency guarantees within politics and the economy to prevent corruption and ensure responsible running of the economy. Finally, protective security is portrayed as a safety net for society for if you become ill or unemployed, but also to protect minorities against exclusion. The importance of each of these five freedoms relates to different factors that could restrict capabilities. The ability to allow them to be effectively implemented should take place by both individuals and wider society. Thus, these "capabilities can be enhanced by public policy, but also on the other side, the direction of public policy can be influenced by the effective use of participatory capabilities by the public" (Sen, 1999: p.18). This gives individuals the ability to shape their own future and help others in the process. Thus, Sen see's these freedoms, not as an end outcome of development, but rather the means as to which development should take place.

2.4.2 Amartya Sen in the context of UA

Sen's work on Development as a Freedom can be applied to understanding how UA is used in the building of SLA capitals, through an expansion of freedoms as a means of development. Here Sen demonstrates the importance of how "greater freedoms enhance the ability of people to help themselves and also influence the world, and these matters are central to the development process" (Sen, 1999: p.18). Thus, these freedoms can be placed in the context of the building of livelihood capitals. The livelihood capitals are not "simply resources that people use in building livelihoods: they are assets that give them the capability to be and to act" (Bebbington, 1999: p.2022). The assets intern provide agency to individuals build and define their own livelihoods in a way they wish. Therefore, "the more agency people are allowed to have and the more agency they acquire themselves, the better they can really develop their capabilities" (Van Zanden 2012: p.18). Thus, these capabilities in the form of constitutive and instrumental are important in understanding the link that different forms of capital and the relationship that they have with each other.

2.5 Sustainable Livelihood Approach

The sustainable livelihood approach (SLA) looks to go beyond the conventional approach tackling poverty and instead understand more broadly what leads to poverty and how can it be overcome. This has been used traditionally within the context of the rural poor individuals or households, to understand and measure what resources and capabilities are available and how they can be increased in a sustainable manner.

2.5.1 Sustainable Livelihood Framework

The ideas on sustainable livelihoods has its foundations in the Brundtland Commission "as a way of linking socioeconomic and ecological considerations in a cohesive, policy-relevant structure" (Krantz, 2001: p.6). This was further elaborated on by Chambers and Conway (1992) that focused on the assessing livelihoods at a household, while also being able to be placed at different hierarchical levels as well. Chambers and Conway's work was later adapted by three different development agencies (UNDP, CARE and DFID); providing a framework to measure livelihoods. While each of these differed slightly from one another this thesis will apply the more popular, DFID's (UK Department for International Developments) sustainable livelihoods framework (1999). Here they define sustainable livelihoods as:

"A livelihood comprises the capabilities, assets (including both material and social resources) and activities as a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base." (Cited Scoones, 2009: 5).

The focus of DFID's (1999) sustainable livelihood framework (SLF) is principally focused people and their capabilities, rather than looking at the resources they consume or how they operate around the governments that they serve. This focus on people supports individuals in activities that allow them to shape own livelihoods. The fundamentals of this are broken down into several processes that influence the outcomes for individuals. The Vulnerability Context and level of Livelihood Assets is key in determining Livelihood Outcomes for individuals and communities. While the Transforming Structures & Processes can influence the Livelihood Outcomes either in a positive or negative sense. This is thus also seen to connect the micro (Livelihood Assets) with the macro (Transforming Structures & Processes). Vulnerabilities affecting outcomes and are usually outside of the individual's control. They are represented in the form of short-term shocks such as natural or economic, long-term trends in the form of population or economic projections or seasonality that can affect food prices or employment opportunities. The livelihood Assets are important in helping to understand what in what way individuals are constrained or have increased livelihood opportunities in the context of one another. These assets can be broken down into five distinct but interrelated capitals:
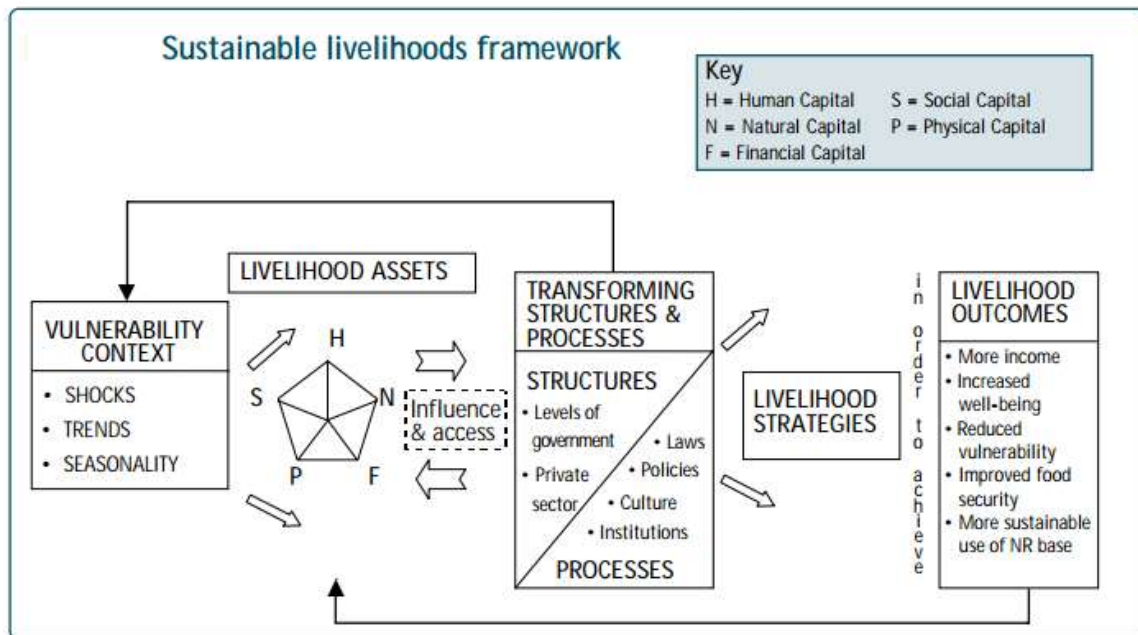
Figure 2: Sustainable Livelihood Framework
(DFID, 1999: 1)

Human: Refers to things like education, skills, health and your ability to engage in demanding activities. This is important for engaging and influencing the other four types of capital, although on its own it is not capable of achieving positive livelihood outcomes.

Social: Looks at social resources that support your livelihood objectives. These can be through the relationship with your boss or employees at work. Setting out formalised rules and social expectations seen in the workplace or wider society. Or building relationships based on trust between friends and family that may provide a social safety net or reduced transaction costs. This can be important upon the building of other types of capital such as financial through good working relations and respect for common property such as public infrastructure or natural spaces (physical and nature).

Natural: Is based on natural resources available and how these provide services and resource flows to support livelihoods. Examples of services can be derived from the role that eco-system play in having a positive impact on human, physical and financial capital in areas such as flood prevention, pollination and water purification. In terms of resources, natural stock such as timber, fisheries or arable land are features that build natural capital.

Physical: Is made up of infrastructure and goods that support livelihoods. This is broken down into two areas. Firstly, where changes in the physical environment are made to support and meet the basic needs of individuals. Examples span from roads, housing, communications, water and electricity distribution. Secondly, goods comprising of equipment and tool that allow people to operating on a productive level. The importance of physical capital is that lack of access even to a particular type can be an underlying cause of poverty and have a negative knock-on effect on other types of capital.

Financial: Looks at the financial resources available that allow for a positive impact on livelihoods. This is broken into stocks which represent: savings, cash and physical assets; and flows such as pensions, government and family support. Financial capital is significant as it can be transferred into other types of capital and support general livelihood outcomes.

Access and control over these assets are essential for maintaining and building livelihoods. Thus, lack of control or limited access could end up by increasing vulnerability and livelihood outcomes. Therefore, the purpose of the SLA framework is to allow "stakeholders with different perspectives to engage in structured and coherent debate about the many factors that affect livelihoods [and allow for] the identification of appropriate entry points for support of livelihoods" (DFID, 1999: 1).

2.5.2 Sustainable Livelihood Framework applied to UA

Historically, the SLF was developed and has been used in the context of the rural poor in developing countries (Solesbury, 2003). For much of this time, the framework has been applied to measure the livelihoods and vulnerabilities of these communities at a household level. Usually this has been in relation to their performance in agriculture or other resource-based activities, which are often main means of subsistence and income. However, now it is also being applied to the urban environment as well (Martin et al., 2000; Mkwambisi et al., 2011; Gallaher et al., 2013). In addition, research has also been narrowed to focus on specific capitals and how a certain practice may affect livelihood outcomes in either a positive or negative way. Within the context of the SLA in UA, there has been a wide variety of research focusing specifically on African cities and what effect UA has had on their livelihoods. However, these have tended to focus on the poor living in informal settlements. Furthermore, while some of the research has looked at all the five capitals, others have taken to look at one or two, with often preferences being given to focusing on social capital. This has been particularly true of Cape Town where recent research has tended to focus on social capital in the township areas over the other livelihood capitals (Oliver et al., 2016; Oliver et al., 2017; Battersby et al., 2016). Thus, this thesis takes a unique approach to previous UA livelihood research, by looking at all five of the livelihood capitals in relation to land rents in one geographical area.

3. Contextual Background

The City of Cape Town is located on the south-western tip of the African continent and is South Africa's second largest city. Populated by 3.7 million people (Stats SA, 2017), the city is culturally and ethnically diverse due to its colonial and post-colonial history that has seen different waves of peoples coming to settle. In addition, Cape Town is home to South Africa's national parliament and key legislative bodies. It is also the provincial capital for the Western Cape Province, representing one of the main economic drivers of the South African economy after the Gauteng Province that makes up Johannesburg and Pretoria.

The Cape Town economy is heavily driven by commercial services, accounting for 60% of its total GDP output in 2015 (City of Cape Town, 2016). Following this, government and community, social and personal services incorporate 17.7% (City of Cape Town, 2016). Next manufacturing at 14.8% and construction at 3.9 and finally agriculture at 1.4% (City of Cape Town, 2016). However, historically the unemployment rate has been high in comparison to

what is usually seen as expectable in the West. From the 2011 census, unemployment stood at 23,9% with youth unemployment at 31,9% (Stats SA, 2017). While this is lower than most regions South Africa, these rates disproportionally affect those from black African and coloured backgrounds. This has been made worse by the economic crash in 2008 and an economy that has struggled to recover since.

3.1 Social and Ethnic Divides

Cape Town's colonial history reflects the city's ethnic and cultural diversity. The demographics are made up of the following groups in ascending order: coloured (42,2%), black African (38,6), white (15.7%) and Asian (1.4%) (Stats SA, 2011). The spatial distribution is divided along different income and ethnic lines as is shown in figures 3 and 4. The spatial distribution sees the white population predominantly living closer to the city centre and in the more scenic parts of the city. While those from a coloured or black African background tend to be based on the Cape Flats.
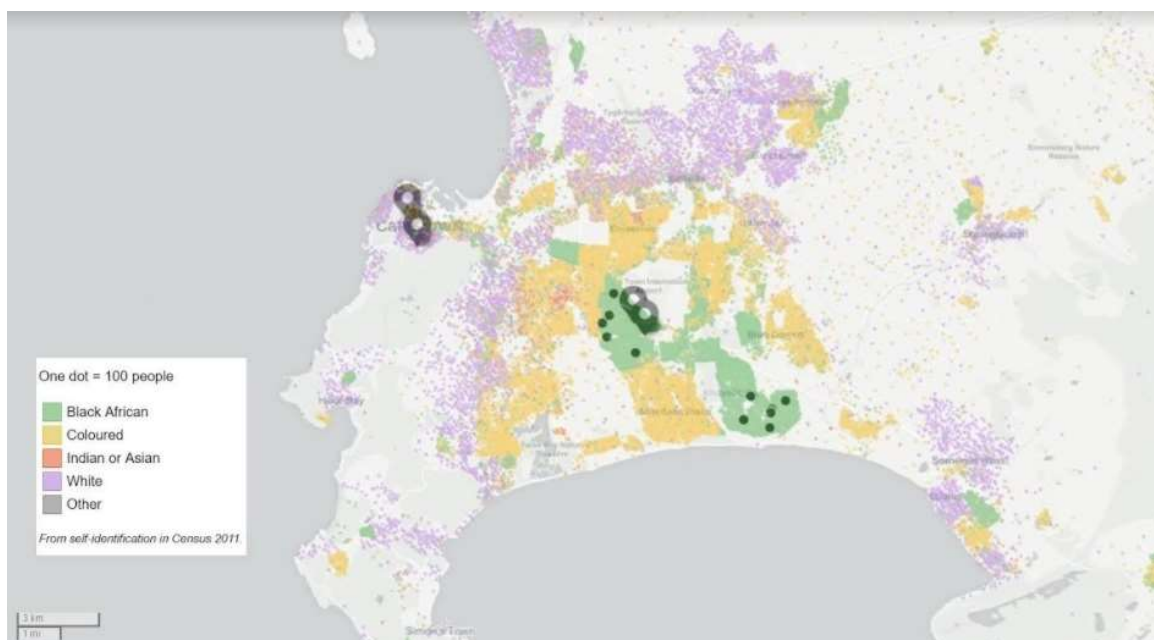

Figure 3: Cape Town Racial Distribution
(Frith, 2011)

Figure 4: Cape Town Wealth Distribution (Frith, 2011)

This divide relates back to the city's apartheid legacy which forces the separation of different ethnic groups, where whites were able to live in the more desirable parts of the city, while other ethnic groups were forced to move into townships that were created on the Cape Flats on the outskirts of the city. As figures 3 and 4 show, the extent of these divides has remained significant. The townships suffer from chronic issues of unemployment, violence and lack of access to basic healthcare and education. In stark contrast, the wealthier suburbs of Cape Town tending to have greater access to a variety of services, with general high standards of living that could be comparable to the West. It was only with the end of apartheid in 1991 that restrictions were lifted for those of black and coloured origin, but due to the large inequalities in income, much of the former apartheid structure for Cape Town is still in place.

3.2 UA in Cape Town

The city's agricultural sector is small comparison to other sectors, but is a prominent part of the city's landscape. Within the city there are number of wineries with incorporated vineyards that operate in suburbs such as Constantia. In addition, there are areas that have recently been incorporated into the city's urban sphere, like the Cape Farms that has traditionally been a rural area agricultural area. Another similar but more established area is the Philippi Horticultural Area on the Cape Flats. It has been farmed since the 17th century and produces around 50% of Cape Town's fresh produce (Future Cape Town, 2017). There is also a significant about of UA practiced within the city. This is predominantly also seen on the Cape Flats where vacant land has been utilised for the purposes of growing vegetable and fruit crops.

There are several organisations that work in or supporting UA projects. At a municipal level there is the Urban Agricultural Unit. Its focus is towards the urban poor to use UA to creating incomes, to readdress land imbalances and to provide social and technical skills through education and training. In addition, secondary goals include improvement of public

health, the environment and economic and social well-being. In addition, there are several smaller organisations influencing Cape Town's general UA policy, originating from academic, development and commercial backgrounds. Two important academic institutions are the African Centre for Cities, based in the University of Cape Town, and the think tank, Future Cape Town. Both of these have played an influential role in addressing Cape Town's issues regarding agriculture and food, along with broader urban issues facing the city. The main UA development organisations are made up of three NGO's operating within the townships: Abalimi, SEED and Soil of Life. Each of these operate within the different townships of the Cape Flats, supporting individual and community UA projects. The commercial UA bodies are ERF-81, Oranjezicht City Farm and Harvest of Hope. All three are registered as NPO's and are focused on producing and selling their own produce, generally to the wealthier communities in the city.

3.3 UA Literature on Cape Town

Cape Town's Urban Agriculture Unit has been central in influencing UA publications over the last ten years. This was seen with the publication of is Urban Agricultural Policy in 2007 that outlined its goals for UA in the city. The objective was to create a shared vision in shaping Cape Town's approach to UA. The policy aimed to create, "an integrated and holistic approach for the effective and meaningful development of urban agriculture in the City of Cape Town […] wherein public, private and civil society agents can work collectively" (City of Cape Town, 2007: p.2). However, the use of UA as a policy can be criticised in a few ways. Firstly, in that its focus on the poor also limits its scope of involvement to the poor and limits the wider benefit of UA to the rest of Cape Town's population. Secondly, there is evidence that "household UA engagement as a food source is not an effective strategy for maintaining or increasing household food security" (Frayne et al., 2016, p.28). Finally, the municipality's UA policy and its focus on the poor can be interpreted as shifting the municipality's responsibilities to provide and support those people, with too much emphasis of the answer to their poverty being placed in UA and on individual responsibility (Battersby & Haysom, 2016). Much of this seems to be present in the policy's literature. While the municipality is committed to supporting the growth of UA in Cape Town; the fact that only one such a policy has been produced in ten years offers little hard empirical evidence towards its progression and raises questions regarding its relevance and effectiveness as a policy tool.

While traditionally the practice of UA has focused on areas where poverty is high, there is also UA literature focused on Cape Town which has looked beyond this. Examples include studies on the role that UA can play on empowering women and recent studies on the broader, non-economic, benefits associated with UA. Regarding UA acting as a tool for female empowerment, Slater (2001) shows how UA was acting was empowering women in the township areas on the Cape Flats. This study highlighted how UA gave "pride and sense of self-worth that women gain from their capacity to produce fresh vegetables are heightened further when their produce is consumed directly by the family" (Slater, 2001: p.648). In addition, stability and the ability to build a social network with other UA famers in their area were an important drive according to this study. Olivier & Heinecken (2017) more recently looked at the role that UA played for women in the township areas of the Cape Flats. Their study considered how UA builds social capital for the female farmers, producing similar results to Slater's work. Olivier & Heinecken also expanded on the notion of

additional benefits to UA other than poverty alleviation. This was followed the joint research done on women to look more broadly on the physical and social benefits (in the form of capitals) associated with UA NGO projects in the Cape Town townships.

Since 2011, Jane Battersby has been a key contributor to Cape Town's UA literature. Covering a variety of aspects and often co-authoring with other academics, her research has primarily focused on food access and food security for the city's poorest (For examples see, Battersby & Crush, 2014; Battersby & Peyton, 2014; Battersby, 2016). Battersby can be found to take a critical approach to the way UA has been put forward as a solution to poverty, arguing that UA is being used to shift responsibility of tackling poverty from the government to the individual, the private sector and NGOs (Battersby & Haysom, 2016)..

Overall, it is apparent in UA literature on Cape Town, whether it be governmental and academic publication, that the focus has mostly been on the poorer areas and the role of UA as a part of their (potential) livelihood strategies. While this is important and has high positive potential for the city's urban poor, there has been little research on the role UA can play (or already does play) outside the townships. As a result, there is little exploring the role that UA plays elsewhere in the city and the possible social and economic benefits for those communities. Thus, taking a broader approach would be beneficial in understanding how UA is applied in different social and economic contexts.

3.4 Research Sites

The application of UA in Cape Town is spread out across the city in different social and economic settings. Thus, this thesis will look at the affect that different land rents have on UA, the motivations of the individuals participating in UA and the outcomes that this has on livelihoods. A total of three different research sites were chosen with differing ideologies and characteristics (see figure 5). In addition, while OZCR and ERF-81 were located on one site, the Abalimi research sites were spread out amongst the townships of Nyanga, Gugulethu and Khayelitsha.
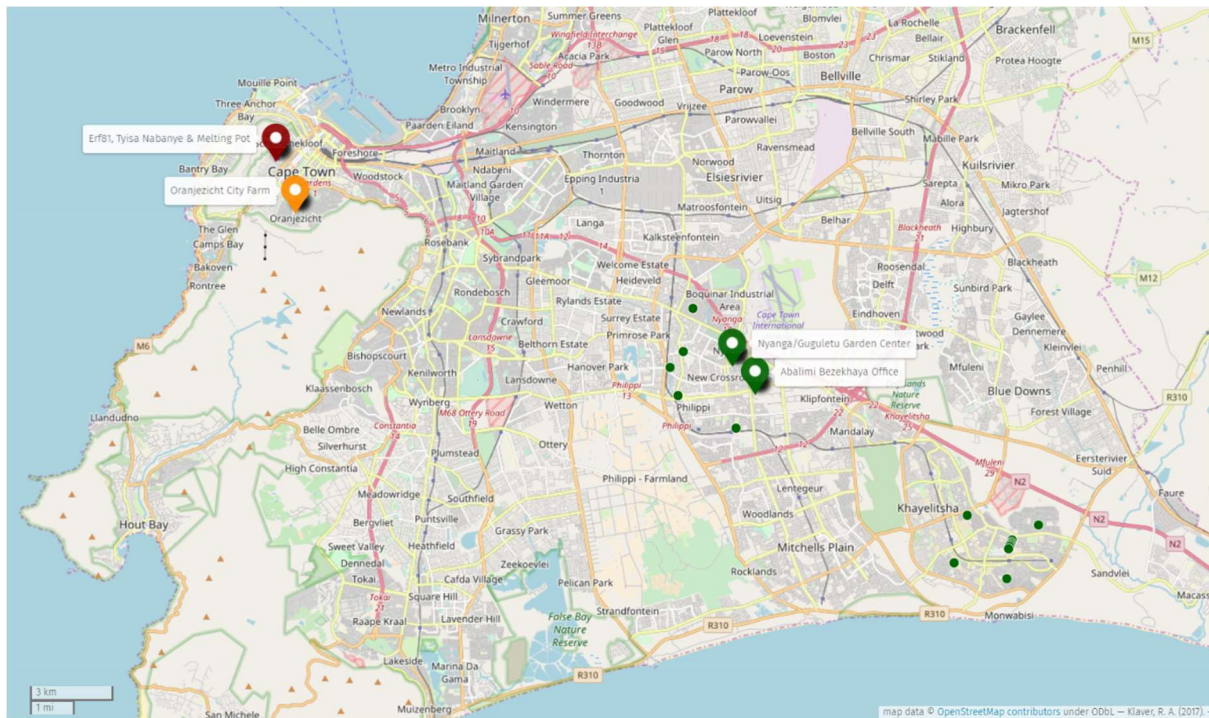
Figure 5: Locations of each research sites
(uMap, 2017; OpenStreetMap, 2017)

The reasons for only focusing on three areas was due to the differences in social and economic backgrounds between each of the research sites. A detailed description of each of these research sites will be given below.

3.4.1 Oranjezicht City Farm

Oranjezicht City Farm (OZCF) is a non-profit organisation set up in 2012/2013, located on the lower slopes of Table Mountain. It sits on the original site of the of the Oranjezicht farm, that was founded in the 18th century to provides fresh supplies to the Castle of Good Hope and passing ships. The farmland has since been built on and has now become the suburb known as Oranjezicht. Nowadays a small park (Homestead Park) has the last markings of the initial farm, with OZCF being located on top of what was the old farmhouse; with an amazing view of the city and Table Mountain National park.

The purpose of setting up OZCF was primarily as a green space for the local community in which they could meet, learn and buy local organically grown fresh vegetables. The farm is open to the public seven days a week with various events held during with week aimed at attracting and educating the local community about environmental issues and urban farming. On the Farm, there is about 700m2 of productive land, growing a variety of ingenious and non-ingenious food crops. Due to the small growing area, the farming is intensive, although strictly organic with the practice of permaculture and natural fertilisers being key to its high yields.

Being a community-based project, the number of individuals involved is high, mainly comprised of volunteers. OZCF sees itself as a way for the more affluent residents of the city to connect with green farming practices, being a part of a larger network that includes other UA organisations like ERF-81 and Abalimi. OZCF out of all the UA project visited seemed the

most organised and publicly advertise. It was not uncommon to find chefs from some of Cape Town's top restaurants walking around the garden, picking out the ingredients they were planning to put in their dishes that night. In addition, the farm often held events for the local community, such as pick your own Thursdays or market Saturdays that drew the neighbours out from behind their high walls.

Overall, the OZCF is a warm and welcoming place, with a strong community-focused approach. The farm also acts an education tool, exposing the community to environmental issues and instigating change at a local level. However, probably due to the nature of the areas there is little in the ways of racial mixing, with most of those involved and visiting the farm being white. This is not something deliberate, but more down to the farm's geographical location.

3.4.2 ERF-81

ERF-81 is located on the foothills of signal hill, above Bo-Kaap, overlooking the city bowl. Originally, the area was used to store arms and hold a small military garrison. It was abandoned towards the end of apartheid and has since become an active inner-city farm, performing a variety of farming techniques ranging from animal husbandry to the planting of fruits and vegetables. The farm has a feeling of revolt or rebellion against normal societal structure, with many of its barriers being brought down, with the goal of focusing on love, openness and creativity. Looking around this feels quite ironic with over the last 20 years the farm has slowly been surrounded by high-quality residential housing, built to cater for Cape Town's wealthy elite. In recent years there have been attempts by the municipality of Cape Town to close the farm and open the land to property developers. The last big push for this failed in 2016 thanks to local support and issues over land ownership between the municipality and the South African Department of Defence.

Within the ERF-81 community, there are two other sub-organisations, namely the Melting Pot and Tyisa Nabanye. The Melting Pot which is a cultural/musical group made up of artists from all over Cape Town and free to anyone to join and take part in. It principally provides a platform for musical events, plays and other forms of artistic expression shown in pictures 1 & 2. Tyisa Nabanye is the farm's community garden, focusing very much along the lines of small-scale intensive agriculture. However, it seems that in the last year the community lost interest in it and had fallen into decay. Recently, there have been efforts by the community to revival it and start selling fresh produce at the farms weekly market in partnership with the Melting Pot.

Picture 1 & 2: Performances and layout of the Melting Pot

While collecting the field data, there were difficulties in getting individuals on the farm to participate in interviews and in the end only one focus group with seven leading members of the community was organised. The reasons for this were unclear, but it was felt to be a mixture of disorganisation on the part of the community and previous attempts by the municipality to shut them down. Therefore, a lot of the analysis for the farm has depended upon personal written experience while in the field. This was either collected through voluntary opportunities on the farm or attending events, such as the farmers market that was held every Sunday.

Overall, the running of the ERF-81 farm feels disjointed, unorganised and a bit chaotic. While the farm was originally set up by Andre (picture 3) and with his presence on the farm seeming to place him as the natural leader, the reality of this is more complicated. For one the farm is made up of a variety of different individual totalling 30, all seemingly with their own agendas and ways of doing things, this in many cases leads to conflicts. A couple of the inhabitants have come from difficult backgrounds which have an effect the social fabric of the community. However, the recent creation of the Melting Pot and the restart of Tyisa Nabanye has provided a purpose for the community to work together and organise themselves towards set goals collectively. This has helped in healing some of the divides that are still ever present. That said, the general feel of the community is of warmth and openness. During the time spent there, you were made to feel very welcome and were free to join in most of the group's activities as you pleased. In many ways, ERF-81 seems to break down many of post-Apartheid barriers that still exist within the city and gives hope to Nelson Mandela rainbow nation dream.

Picture 3: Andre and his family

3.4.3 Abalimi

The organisation operates as an NGO to promote green and organic UA in the townships of Nyanga, Khayelitsha, Crossroads, Philippi and Gugulethu. It was founded in the early 1990's and has since become the largest of the three major UA organisation (SEED, Soil for Life) that are operating within the Cape Flats. The focus of the NGO is to provide, education physical (seed, tool & pumps) and administrative support to individual and community gardens that operate within their target areas. In the last decade, they also launched their sister organisation Harvest of Hope (HOH) that produces weekly vegetable boxes from the vegetables grown in their target areas for sale within the wealthier part of Cape Town. This has been critical in developing the livelihoods of their farmers, with HOH providing an income platform for their produce.

The headquarter of Abalimi were held in an old cement factory that had been renovated into a community library and business hub. This area is a central point for many of the townships in the area and hosts a number small-scale business operating out retrofitted shipping containers stacked on top of one another. The Abalimi offices were mainly used for administrative purposes by the upper management staff and volunteers. Next door to the office was the packing shed and distribution point of HOH (picture 4). From here the vegetables are collected from the farms and packed into boxes for distribution as a part of the weekly vegetable box scheme. The packing process is generally overseen by one of the long-term farmers with around 20 people involved in the packing a distribution process.

Picture 4: Harvest of Hope packing shed

The individual and community gardens that supply HOH and receive support from Abalimi are independently operated. They can choose how much these wish to sell to HOH and how much support they feel they need from Abalimi. This support is in matters regarding how to grow certain plants, dealing with pests, applying fertiliser or placing requests with the department of agriculture. Abalimi also runs garden centres that are accessible for each of their target areas providing discounted farming supplies and agricultural classes with support from organisations such as UCT.

Overall, Abalimi has played a big part in supporting and creating a market for small-scale farmers in the townships. Out of this, UA has become an important survival tool for the farmer involved to have access to healthy nutritious food and a small income from the produce sold. All the farmers seem very aware of environmental issues and take pride in their local and organic farming practices.

4. Research Design & Methods

This section discusses the research methods used in the field in relation to the research questions. In addition, what limitations, risks and ethical issues that were encountered while conducting field research.

4.1 Methods

The data collection took place over the course of six weeks and was collected in partnership with another master student (Klaver, 2017) who was doing research into UA as a social movement. The benefit of this was that we were able to maximise the data that was collected to provide a more meaningful and concrete result for each of our research topics. It also

allowed us to share our thoughts on the research sites visited and draw on meaningful points from these experiences.

4.1.1 Data Collection

While in the field a mixture of quantitative and quantitative data was used. The quantitative data come from both primary and secondary sources. The primary was data from the GPS tracking that was done to make and measure the size of each of the farms. The secondary data came mainly from the municipality to understand how wealth was distributed within Cape Town and how land rents changed as you moved further away from the CBD. The qualitative data was all primary and collected in person to understand the motivations and outcomes of UA. The reason for focusing on qualitative data for this aspect of the research was due to its broad approach and the ability to "focus on human experience and seek to understand the social world, recognising this world for its richness in context, detail and experience" (Stewart-Withers et al., 2014: 59). Due to the comparative nature of the research, this was felt to be beneficial in understanding in detail the different motivations and the effects on livelihood capitals. In total, twenty-two interviews, two focus groups were conducted, in addition to observations in the form of photographs and a diary of written down experiences.

In understanding how land rent changes moving away from the CBD the phone application Locus used to first mark and measure each of the research sites. This data was then uploaded to google earth where the measuring tool was used to work out the size of each plot per m2. Municipal data from the 2015 General Valuation Roll (GVR) was then used to figure out the value of the land rents for each of the farmed plots. This was easily done for OZCF and ERF-81, however, for the farms based on the Cape Flats, the land value data was felt to be less accurate, in part due to the existence of formal and informal housing. In overcoming this, the local land value was taken from each of the farming plots, along with an average size and valuation for the farms in Nyanga/Guguletu and Khayelitsha.

The interviews and focus groups were semi-structured (see Appendix 1 for interview guide) to help in keeping the discussion on track, but also to allow space to go into detail if a point of discussion became particularly interesting. As a part of this, an interview guide was made, broken into sections with different questions to keep the interview running smoothly. The interviews were usually made up of either one or two individuals, while anything bigger was organised into a focus group. The general format of these first looked at establishing their demographic (Section A) through establishing their age, gender and mother tongue. The demographic section was also used to define the income of the individual through asking about their occupation, education and the geographical nature of their day to day activities. Section B focused on trying to understand the motivations for involvement in UA by asking about why they originally got involved, how long these have been involved and why they continue to partake in UA activities. Section C and D asked about their positive and negative experiences of working in UA. This was the main sections for understanding the outcomes UA had on their livelihoods and facilitated in the potential building of capital.

The reason for sometimes doing interviews in pairs was often due to time constraints for some sites, where we could either only be there for a short period of time or because we needed our translator to translate from Xhosa to English. The two focus groups were done

in cases where it was difficult to organise individual interviews and were held with between eight to ten individuals. The reason for opting for doing focus groups in some cases was due to difficulties in conducting meaningful interviews (as was the case in Nyanga) or finding the time to get participants for sit down interviews (ERF-81). Length of the focus groups was around an hour, while the interviews varied from interviews ten to twenty minutes with the township farmers for an hour or more with the OZCF respondents. An example of a transcribed interview is shown in Appendix 2.

While visiting the different UA projects, a written record was made of the different experiences had at each. This was especially useful in areas where the English were limited or where there were difficulties in arranging interviews. There were also occasions where myself and research partner would volunteer. This was either through: teach children weekly about growing food and the role that UA has in the nutrient cycle at OZCF, helping to clear weeds and invasive species at ERF-81 or planting crops with the farmers at Abalimi. Time was also taken to attend public events held by each of the organisations to understand further how they operated and interacted with their local communities. At the end of these events, we would record and share our experiences in relation to each of our research topics. Likewise, photographs were taken to give a visual description of these experiences. This was either in capturing the nature of the UA projects or providing future clarification to ourselves in the analysis.

4.1.2 Data Analysis

The main objective of the data analysis was broken into several stages using a mixture of qualitative and quantitative data. The first tried to determine the effect that land rents had on the UA practices and whether they were seen more in the social or commercial sense. This was followed by financial and demographic backgrounds and how this differed between research sites. Then both land rents and financial and demographic background were placed against motivations and how UA was perceived to impact on livelihoods. The objective was to see if differing land rents and financial/demographic backgrounds effected the way people were motivated and what outcomes they received in the form of capitals from UA engagement in different parts of Cape Town.

In defining land rents, Bid Rent Theory was used to theorise how land rents would change extending out from the CBD. In testing table was drawn up with the municipal valuations data and the plots sizes measured. For each of the farms visited: the size, local land value and plot value were given to provide a comparison of how land rent changed between the different research sites. Following this, a discussion of the farming practices seen at each site and whether it seemed to be more socially or commercially interested. This would later be linked back to the motivations and livelihood outcomes of the interviewed participants.

For the socioeconomic backgrounds, motivations and livelihood capitals the qualitative aspects of the data were broken down into three sections and analysed using the software NVIVIO (see figure 6). The demographic section was used to determine the socioeconomic background of each of the participants. This was aimed at gaining a general picture of the background of the participants such as their age, gender, mother tongue and employment. In addition, quantitative data from the 2011 census data, (City of Cape, 2012) survey data from 2016 (City of Cape Town, 2016) and the municipal land valuations (General Valuations Roll,

2015) were used was used to give a general picture of the economic break down between the research sites.

Nodes						
Name	Sources	References	Created On	Created By	Modified On	Modified By
Abalimi	0	0	24/11/2017 21:33	WBG	24/11/2017 21:33	WBG
ERF-81	0	0	20/11/2017 19:26	WBG	20/11/2017 19:26	WBG
OZCF Demograhic	0	0	13/11/2017 13:26	WBG	13/11/2017 13:26	WBG
Age	5	5	13/11/2017 13:26	WBG	14/11/2017 20:37	WBG
Education	3	7	13/11/2017 13:28	WBG	14/11/2017 10:42	WBG
Gender	5	5	13/11/2017 13:26	WBG	14/11/2017 20:37	WBG
Housing	3	3	13/11/2017 13:47	WBG	15/11/2017 12:28	WBG
Occupation	5	10	13/11/2017 13:26	WBG	14/11/2017 20:38	WBG
OZCF Motivation	1	1	13/11/2017 13:57	WBG	15/11/2017 12:29	WBG
Fulfillment	5	17	13/11/2017 13:58	WBG	16/11/2017 11:01	WBG
Security	2	7	13/11/2017 13:58	WBG	14/11/2017 09:36	WBG
OZCF XLivelilhood Outcomes	0	0	13/11/2017 14:01	WBG	13/11/2017 14:02	WBG
Financial	4	5	13/11/2017 14:03	WBG	16/11/2017 12:41	WBG
Human	5	14	13/11/2017 14:02	WBG	23/11/2017 20:55	WBG
Natural	5	13	13/11/2017 14:02	WBG	15/11/2017 12:47	WBG
Physical	2	4	13/11/2017 14:02	WBG	16/11/2017 12:42	WBG
Social	4	19	13/11/2017 14:02	WBG	16/11/2017 12:20	WBG
OZCF ZNegative Livelilhood Outcomes	5	17	13/11/2017 16:32	WBG	16/11/2017 12:03	WBG

Figure 6: Coding and research objectives

The motivations for involvement were broken down into either security of fulfilment nodes using NVIVO in relation to Maslow's Need Hierarchy Pyramid. The frequency that each of these were mentioned were then placed into a pie chart to give the reader and indication of which motivations were more prominent between the research sites. A discussion followed highlighting key points and quotes made by the participants from each of the research sites. The objective was to build a picture on which motivation dominated and the extent that land rents, socioeconomic background play in determining this.

Finally using the SLF, the extent that UA contributed to the building of livelihood capitals was explored. This was again analysed using NVIVO with references for each of the capitals being placed into nodes. These nodes were then also placed into a pie chart to give the reader an idea of which capitals were more dominant. A discussion followed looking at each of the capitals in more detail, with quotes from the interviews used to highlight certain key point that were made. The findings from this were placed in relation to the previous parts that the research had covered.

4.2 Risks and Limitations

During the data collection, there were only six weeks to collect all the data required. This presented challenges first in contacting the community, establishing the gatekeepers and gaining the trust for meaningful discussions to take place. This was partially aided by the voluntary work discussed above. However, it would have been beneficial to have been able to spend more time with each of the organisation, especially ERF-81 and Abalimi.

In the case of ERF-81, recent clashes with the municipality to close it down had made them cautious of outsiders, especially those wanting to report on their activities. This made it difficult to arrange interviews with the different members of the community and get an in-depth understanding of how it is run. For Abalimi, the risk of crime, due to most of the farms being based in the heart of the townships made it hard to navigate or be safe without a guide. In addition, half of the participants could not speak English and so you had to often rely on

your guide to translate our discussions. The became problematic towards the end of the day, where it was clear that the translator was tired and therefore the quality of the translations were questionable.

Throughout the data collection and data analysis, there was a general risk of bias due to the research being predominantly qualitative. For the data collection, this could either have been through phrasing questions that lead to a particular answer, language issues or limiting our discussions to those of a similar background. This was something that one was consciously aware of when beginning the data collection, with efforts made to reduce this risk as much as possible. Strategies such as having a standardised interview guide helped in keeping a consistent format for the questions, yet with a semi-structured mindset to allow for elaboration on certain key points. An effort was also made to actively engage with all individual at all levels of the organisations. This helped to clarify the structure of each of the organisations and the outcomes for the individuals working within it. In the data analysis, there was a strong risk of bias in interpreting the results in relation to income, motivations and livelihood capitals. To reduce this risk, I relied heavily on my theory for guidance in the categorisation and checked my NVIVO nodes repeatedly to make sure they fit with the categories that were placed in.

Other limitations, were in how we were perceived by the different research areas. Being both white, foreign and from a comparatively wealthy background in relation to most of our respondent were likely factors that would affect our results. This was not so much the case when conducting interviews at OZCF as most of the respondents were from a similar background and thus were probably more comfortable being interviewed. However, it was felt to be more of an issue with ERF-81 and some of the Abalimi respondents who seemed to tell us what we wanted to hear or did not want to talk to us at all.

4.3 Consent

Before starting to collect any of the data, it was important to make sure that the participants had first consented to take part in the research. To ensure this, with every interview or focus group, a description of the research was given along with the type of questions that would be asked. It was also made clear that the participant had the right to not answer any questions that they did not feel comfortable with or withdraw entirely if required. The decision was made not to include any participants under the age of 18, as additional consent would be needed by either parent or guardian.

The confidentiality of the participants was also important unless otherwise asked if we can use their name or face in photographs. For those whose permission we did not have, their names have not been used and faces from photographs blurred out. The reason for this is due to the personal nature of the research data. Thus, it was important that no unintended harm that could either damage the individual or their role within their organisation because of the research. It was also felt that this approach was important getting the confidence of the individual and in having a meaningful discussion. Therefore, the names of the participants have not been added to the transcribed discussion and the recording will be deleted once the thesis has been handed in. However, the mapping of the farms does leave a degree of vulnerability even though all the farms mapped were made up of multiple individuals and were not always interviewed. This was a concern since the start of the research and permission was first asked before any mapping took place.

One of the concerns when writing up the results and presenting my thoughts was a conflict of interest to the relationships that were made with the different UA organisations that were studied. Each of these organisations had their merits, but also their flaws. These will be discussed unless certain criticism is going directly affect individuals within the organisations. Furthermore, it is felt that highlighting these flaws is important to provide a fuller picture of the research and reach meaningful conclusions.

5. Results & Data Analysis

The layout of this section will first give a brief outline of the initial findings of the field research. This will be followed by a more detailed analysis of the three research areas to try and to try and establish their demographic and income, motivations for engagement in UA and the effect on their livelihood outcomes.

5.1 Respondent socioeconomic backgrounds

This section is to discuss the characteristics found for each of the research sites and their surrounding communities. This will be in relation to demographic factors such as: age, gender and education. In addition, it will look at wealth indicators such as occupation and assists.

5.1.1 Oranjezicht City Farm

While the suburb of Oranjezicht is considered to be a wealthy white area, the respondents were from a mixture of different income brackets. This was most evidently separated between those that were farmers and those that were either volunteers or administrators. Moreover, it was interesting to see the number of non-South Africa's that were involved within the project, with more than half coming from other countries.

Of the three farmers interviewed, all were male and aged between their late 20's to early 50's and from either Zimbabwean or South African backgrounds. Only one had a formal educational background in agriculture, while the other two had learnt while on the job working for other UA organisations in Cape Town. All of them had previously struggled to find employment, either due to the economic situation in Zimbabwe or being made unemployed in South Africa. None of the farmers come from the local area, with them either coming from lower income neighbourhoods or the township on the Cape Flats.

The volunteers were mainly made up of internationals, either in Cape Town for the short or long term. Likewise, with the farmers, the ages ranged from those in their 20's to those in their 50's. However, most were female and volunteered infrequently. Of the two interviews with volunteer, both were female and were probably the most involved with the farm. They used the farm as an opportunity to fill in their free time as both their partners had well-paid jobs in Cape Town supporting them financially. Additionally, both were tertiary educated and lived in either the city bowl or in Table View (an affluent Afrikaner suburb).

Finally, the two administrators (one male and one female) were the founding members of the farm in 2013. Their involvement was mainly oversight and dealing with the logistical and operational challenges of the farm. These tasks generally involved, renewing licences with the cities bureaucracy, getting vegetables to market or delivering supplies to the farm. The

administrators were the only other members, other than the farmers that received an income from the farms crop sales. Both lived locally and came from relatively affluent backgrounds.

5.1.2 ERF-81

The community at EFR-81 is made up of a variety of individuals from many different social and economic backgrounds. The majority that are involved in the community live on the farm, either in military barracks or informal self-made accommodation. Those living outside of the farm tended to come from the Bo-Kaap situated a little further down from Signal Hill. The age and gender distribution was predominantly male, with a lot of young people from different racial backgrounds either in their 20's or 30's. This was unusual in comparison to the other research sites, that were mainly made up of women and predominantly either black or white. Generally, those on the farm were from medium to lower income brackets, with several previously originating from townships on the Cape Flats.

Most of those living on the farm come from an artistic background, so of which were very open while others kept more to themselves. In this regard the farm's residents, did not really retain formal careers, but rather used the space at ERF-81 to follow their hobbies and passions. In comparison, those coming from outside and joining for day events tended to have formal employment within environmental work or in the arts. They were mostly got involved with the farms on the weekends or in the evenings during the week.

Visually there is a striking contrast between ERF-81 and the other research sites visited. Generally, the setup of the farm felt messy and unorganised, in contrast to the surrounding neighbourhood that was made up of largely, lavish housing. The community surrounding the farm seems to have mixed feelings about its existence, with some supporting it through visiting events held at the farm, while others see it as an eyesore and would rather have it closed.

5.1.3 Abalimi

The research sites of Khayelitsha, Nyanga and Gugulethu where a contrast to the UA sites visited in the City Bowl. They generally had a chaotic and lawless atmosphere, surrounded by a mixture of formal and informal housing. The residents in all three areas were often very poor, Xhosa speaking and from a black ethnic background. The farmers operating the farms were mostly female with little education, either at or close to retirement age. Most of these farmers used their plots of land as means to feed themselves and support their extended families, either through sales to HOH or from their government pensions.

The individual and community gardens in these areas were mainly on public land that had been leased by the municipality. The ground was generally poor quality and mainly comprised of sand (picture 5). For it to be made productive, there was a heavy reliance on natural compost to provide nutrients to the plants. Most of the plots visited were communal in the sense of shared tools, access to water and storage space. The farmed area was divided up into individual plots that were farmed by individual farmers. Due to it being winter when visiting, winter crops such as carrots, cabbages and potatoes were being grown. However, this changes in the summer to vegetables like tomatoes, beans and bell peppers.

Picture 5: New beds recently covered in manure (Khayelitsha Township)

5.1.4 Analysis

Based off the interviews that looked at the participant socioeconomic backgrounds there was a variation between the different research sites. Generally, it was felt that those from the Abalimi research sites came from less affluent backgrounds in comparison to the participant from the other research sites. For most of the Abalimi farmers UA provided an important contribution to their livelihood with it either being used as a part of a pension or as an additional household additional income. Socioeconomic backgrounds were more varied at OZCF due to the three farmers coming from less well-off backgrounds in relation to the volunteers and administrators. The same existed more so at ERF-81 between those that lived on the farm and those who joined from outside. The farm's residents tended to have a limited income, while those living outside of the farm being slightly more well off; although not to the same extent as OZCF.

5.2 Land Rents

The land valuations were based off 2015 municipal data provided by the city of Cape Town. Table one below provides a summary of size, local land value and the total value of each of the UA sites featured in the research. For each of the research sites separately a discussion follows below looking at each of the aspects in cooperated into the different research project and how their activities relate to Alonso's Bid Rent Theory.

Organisations	Size m²	Local Land Value m²	Plot value
OZCF	2310	R2056	R4,749,360
ERF-81	102873	R300	R31,840,000
ERF-81 communal farmed area	812	R300	R243,600

Abalimi Nyanga/Guguletu - 1	860	R511	R439,460
Abalimi Nyanga/Guguletu - 2	7,296	R873	R6,369,408
Abalimi Nyanga/Guguletu - 3	2,373	R752	R1,784,496
Abalimi Nyanga/Guguletu - 4	1,558	R451	R702,658
Abalimi Nyanga/Guguletu - 5	1,187	R625	R741,875
Abalimi Nyanga/Guguletu - 6	992	R637	R631,904
Abalimi Khayelitsha - 1	1,288	R91	R117,208
Abalimi Khayelitsha - 2	2,455	R353	R863,615
Abalimi Khayelitsha - 3	1,932	R354	R683,928
Abalimi Khayelitsha - 4	724	R820	R593,680
Abalimi Khayelitsha - 5	921	R400	R368,400

Table 1: Cape Town Land Valuation (General Valuation Roll, 2015)

5.2.1 Oranjezicht City Farm

The OZCF located on a 2310 m^2 plot in the city Bowl at the foothills of Table Mountain surrounding by some of the city's prime real-estate. Because of this, the city 2015 valuations of the land for which the farm sits on at R4,749,360 (General Valuation Roll, 2015). From the farms last published financial records in 2015, the actual rents paid to the municipality were comparatively low at R11,420 annually (OZCF, 2015). Reason for this, is probably due to the farm being registered as an NPO, alongside the farms strong education and community focus.

Linking land rents of OZCF back to Alonso Bid-Rent Theory, it would be expected that due to the limited space on the farm and proximity to the CBD, commercial opportunities would be limited or confined to specialist fast growing crops. Yet, this was not the case, with most of the farms vegetable and fruit crops being those that would commonly be found on a supermarket shelf. These vegetables tended to have a growing time of two to four months, meaning that several cycles of these crops could be grown a year. This intensive cycling of crop production is an important feature of keeping the farm profitable with the sales of its crops going to the local community.

While the commercial aspect of the farm is important to its survival. The social goals of the farm were also just as important. These were mainly set around educating and bring the community together, being some of the main reasons why the farm major reasons started in the first place. In this sense, due to the farms proximity to the CBD, limited space and high land rents, it won't have been practical to take a solely commercial focus. Rather, a diversified approach incorporating both social and commercial practices into its organisation are important features of the farms long-term survival.

5.2.2 ERF-81

For ERF-81, also located in the City Bowl is sent on the site of a former military base on the edge of signal hill. It covers a comparatively large area 102,873 m^2, (General Valuation Roll, 2015) with a mixture of different social and agricultural uses. The municipal valuations for

2015 set the plot at R30,861,900 (General Valuation Roll, 2015) with the communal cultivated area incorporating 812 m² and being valued at R243,640. The land is currently being occupied by squatters meaning that ERF-81 and its sub-organisations Melting Pot and Tyisa Nabanye effectively play no rent for occupying the property, with municipal water and electricity seemingly being provided for free as well. There have been attempts by the municipality to remove them in the past, but due to the land being owed by the South African military, the municipality does not have the authority. In addition, comparatively to the other research sites and the surrounding area, the ground rents are very low. An explanation for this could be the municipalities interest to buy the property off the South African military some point in the future. This was attempted in 2016, however ultimately failed due to lack of public support.

ERF-81 make and interesting case as it does not follow entirely the theoretical framework of Alonso's Bid Rent Theory. This is through being located on a large area close to the CBD and having no land rents to pay. As a result, the organisation and the land that it incorporates, has a mixture of land uses and generally low intensity food production outside of its communal cultivated area. These range from a variety of fruit trees to chicken, duck, goats and sheep. Within the communal cultivated area common vegetable crops like what was seen at OZCF are grown. Yet this is not to the same intensity and has recently become rather more neglected.

The commercial interests at ERF-81 were limited. While in the past, a lot of the farms agricultural produce from the communal plot was sold at a weekly farmers market that was held at the farm ever Sunday. This has since become less common due to what seems to be organisational issues from some of the community members. However, like with OZCF, the farms location close to the city centre has allowed for a strong social and environmental focus in the farms activities. This attracts many from the surrounding community and further afield to join in either arts or agricultural activities that are organised on the farm.

5.2.3 Abalimi

The Abalimi vegetable plots on the Cape Flats have been built on vacant land in the township areas. This is primarily set within the boundaries of public facilities such as schools or health clinics. A breakdown of the average: size, local land value and plot value is show in table 2. Here, the farms located in Nyanga and Guguletu are on average larger and hold a higher land value per m² than those in Khayelitsha. The farmer that operate on the land usually work within shared communal plots, with most of the land being owned by the municipality and leased out to the farmers on a one to three-year period costing between R3000 to R5000.

Farm Location	Average Size m²	Average Local Land Value m²	Average Plot Value
Nyanga/Guguletu	2,377	R641	R1,778,300

Khayelitsha	1,468	R403	R525,366

Table 2: Average land valuation (General Valuation Roll, 2015)

The purposes for agriculture in these areas in mainly for economic reasons with the produce either being consumed or sold commercially through Harvest of Hope. The crops (carrots, cabbage and beetroot) are similar to what would be found at OZCF and ERF-81 with times from seeding to harvest being about two to four months. Generally, the intensity of UA is quite high. This is promoted by Abalimi which hold and annual competition, with award given to the farmer that can grow kilos of crops per m^2.

Relating these UA farming practices back to Alonso's Bid Rent Theory, there is clearly a high frequency of UA being practiced as you move further away from the CBD. This can be accredited higher amount of vacant land and lower cost per m^2. This provides more space for food to be commercially produced while reducing the community and education focused approach that was seen in the CBD due to difficulties with access. However, the NGO (Abalimi) that supports UA in these areas, has a focus on the production of organic fruit and vegetables and thus works to educate its farmers to farm under these practices.

5.2.4 Analysis
From all the research sites plant based crop production was similar, however with a high concentration of UA plots existing further away from the CBD on the Cape Flats. The size of the plots used for UA varied in terms of scale. Khayelitsha on average had the smallest, yet you could also argue this for ERF-81, if you just looked at the communal cultivated area. ERF-81 in general made an interesting due to its size, land value and its UA practices which does not correspond to what would be expected close to the CBD. The purposes for UA engagement saw farms located close to the CBD having a strong social and educational focus. In contrast, farms on the Cape Flats were more commercially focused with the sale of their crops being contributing to an important part of their income. In this sense, the movement from social to commercial fits within the idea set out in the Bid Rent Theory of the CBD being somewhere of interaction. Thus, it was expected that UA would follow a more commercial focus the further away you moved from it.

5.3 UA Motivations

5.3.1 Oranjezicht City Farm
The main motivations from the respondents at the farm were a mix of the farmers, the volunteers and the administrators. All of which came from different backgrounds and so had a variety of influences on motivations. Table 1 demonstrates this, with the majority of those involved within OZCF seeking to participate for fulfilment purposes. The security aspect can be explained by the farmers that were paid to work on the farm verse the volunteers and administrators that used the farm for fulfilment.

OZCF Respondent Motivations

Security
29%

Fulfillment
71%

Total
Respondents: 6   ■ Fulfillment   ■ Security
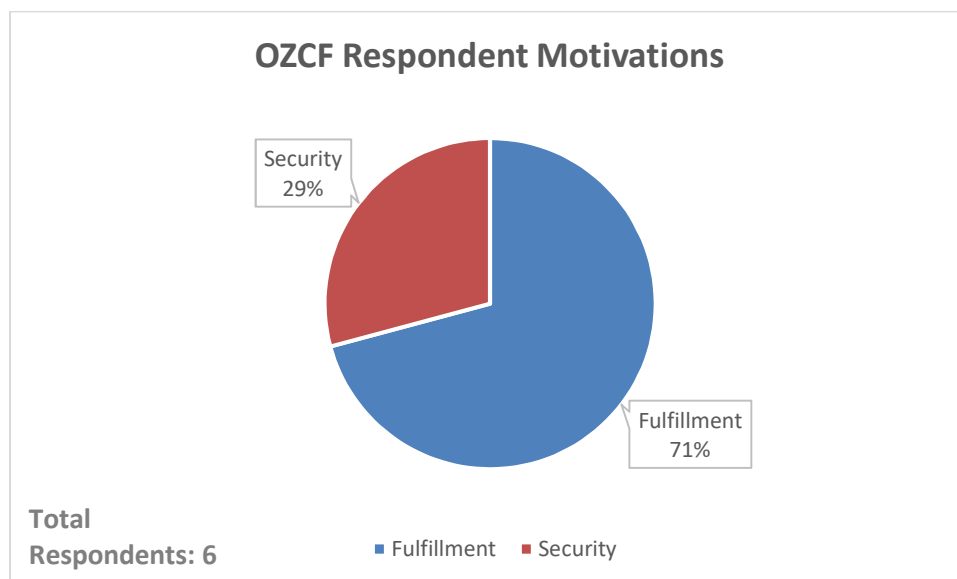
Table 2: OZCF Respondent Motivations

<u>Farmers</u>

For the security motivations, this came only from the farmers that were paid. The first farmer interviewed, who was the lead farmer on the farm told us about his story in becoming involved with OZCF and how before joining he had been unemployed for some time. During this, he got involved with a community farm that was set on the grounds of a local hospitals where he learned about growing vegetables and tend to the soil. He then began to volunteer for OZCF when the farm was being set up and being unemployed, working at the farm gave him security in his income and a social circle in which to meet new people.

"he approached us and he told us he was unemployed and would we consider giving him an opportunity to show what he knew, and to prove himself and you know, as I said, if it isn't often that one would come across an individual who has that kind of knowledge and that passion."

The ideas of knowledge and passion towards his work in the garden can be interpreted as gaining fulfilment. During the interview, he also went to length in talking about his environmental views and how human urban practices are a destructive force to the environment.

"once you're in tune with nature, then you can respect, 'cause if you respect nature, it will respect anything around you, because then you will respect people also. You lose that respect in the, in the city, or I can that shitty. A city is nothing but a cancerous growth, it's a, it's cancer"

"the city needs to change its way, the way we build cities is wrong also, it's not a building should be like a tree, it should sustain itself and not just bring stuff in and chuck it away, and bring stuff in and chuck it away onto the dumps"

This more radical approach represents another part of his motivation for work on the farm,

which seems more like a protest to our current consumerist system. This can be linked back to McClintock's ideas of overcoming different rifts that society has created. For him, UA is a way of rounding the currently linear resource cycle and limiting the number of resources that cities need to consume in beyond the urban boundary.

The other two farmers both originated from Zimbabwe and had come to South Africa to look for work due to the high unemployment in their own country.

"we have problems in Zimbabwe, it was like we don't have something to eat, and so, and I am the firstborn, so I have to look for something so that I can feed my family, so that's why I came here and to look for the job."

They work at the farm full time, following directions from the lead farmer and the administrators. For them, it is felt that the main reasons for being involved in UA is employment and having enough money to support themselves and families. Both are still fairly young and trying to establish what opportunities they have and how to better themselves.

The first farmer seemed primarily involved for the financial returns, but also got fulfilment from what he did. His original motivation for being in South Africa is purely economic and during his time in Cape Town, he had been able to build a reputation for himself within the different UA organisations. As a part of working at OZCF, he has worked on UA farming projects in the Cape Flat, supervising and helping to manage community and individual gardens. Furthermore, he also supports other community gardens on his weekends while working full-time at OZCF. When asked how working in the garden makes him feel:

"You know like, once you're working in the plants, you can smile sometimes so that they can smile. If you're always upset, the plant feels it."

"For myself, I like planting my beds and I see it growing, I feel like more proud of it, yeah I see, if all this spinach need like maybe to eat some nutrients, I have to look after it, it is more proud, like something where you can see the outcome of what you are doing, it's good"

The motivations for this individual have strong fulfilment grounds and a passion for working with plants. However, I would argue that the financials are still an important aspect as it was the original reason for him coming to South Africa. Thus, without the financial incentive he would probably have to look for other work.

For the second farmer was younger and was focused on is earning potential. In this case, it seems that the financial incentive is the dominant motivation for working at the farm. He also is very open to finding new work, even though he has an educational background in agriculture from Zimbabwe. It seems this is partly motivated by the income risks associated with UA and the desire to have a steadier income.

"when it comes to financials, these ups and downs, so those things make you think, maybe if I did do IT, I could do something better."

The financial aspect is something that is echoed throughout the interview and although there is some aspect of fulfilment from working in the garden, it seems though if something financially better came along, then he would change is employment.

Volunteers

Of the volunteers interviewed both were being supported financially by their husbands and had strong fulfilment motivations for their involvement with the farm. The first volunteer was originally from South America and had been in Cape Town for a few years after marrying a South African. For her:

"my benefits are not financial... I think I get, I get a lot in terms of nutrition, like, I don't want to say spiritual, I want to say, like, in terms of knowledge and also spiritual probably, like and a lot of knowledge that I take away from working with the children especially and teaching about the farm"

Much of this had fallen in line with a lot of her own personal interest with gardening and children. She has also recently taken over organising the school visit educational program, where school children come from across Cape Town and learn about the history of the farm, nutrient cycles and how to grow their own food.

The second volunteer works more within the admin side of the farm, through answering emails and helping with the general administration requirements. She had moved over from Europe two years ago as her husband was relocated to Cape Town for his work. She since has used OZCF as a part of filling her time.

"I especially enjoy being on the farm itself and doing these orientation sessions now, because it is so interesting to see the different kinds of people who apply. Who they are, where they come from, their background, how they react, what ideas they have, it's great. It's really great, it's really fun, I love it"

The farm overall provides her with a social base that is diverse, likeminded and international. Generally, her motivation for being involved with the farm is for fulfilment purposes. This is mainly through the satisfaction derived from her administration role and a desire to build up her social capital. Financially she has the support of her husband:

"Yeah, I'm in the fantastic position not having to financially-wise, which not everyone can say. It's a very luxurious position."

Thus, I would also argue for her primary motivations being for fulfilment rather than security.

Administrator

Both the administrators were from the Oranjezicht suburb and had been there since the founding of the farm, playing an important role in its development. One of these founders were interviewed. She had been retired for some time and had used the farm as a way to fill her day. Before retirement, she had led several successful career paths in South Africa and

abroad. Being proactive and giving back to the community was important motivations for her originally setting up the farm.

"I found being at home extremely difficult and, you know, after a while the novelty wears off, no matter how nice you make your days are. It really stems from a profound need to, I wanted to make a difference in my community."

For her, she found that many of the members of her community were isolated, due the risk of violent crimes that is common throughout South Africa.

"I always felt that people very often, people who live in the city, there is not a great sense of neighbourliness, people don't know each other because they live behind high walls."

Therefore, the farm was being used as tool to bring the local community to together and is central to her goals for the project.

"I think there is richness in what we can share as people and especially as the majority of people here are very privileged, they've travelled, they're professionals, many of them, so they have a lot to give and a lot to share and I think that's what life's about, you know"

Thus, it seems that the main motivation of the OZCF is fulfilment, through provide a service and a place for the community to meet which typically would not be possible due to the closed and segregated nature of South African society.

5.3.2 ERF-81

The focus groups were done with eight key members of the ERF-81 community. Based off this, the motivations (as seen in table 2) were held slightly more in favour of seeking fulfilment, with security also making up a sizeable contribution. The fulfilment aspect was reflected in the artistic and creative nature of the farm, while the security motivation was seen through the food, shelter and security that the farm provided. A more detailed explanation of this will be discussed below.

ERF-81 Respondent Motivation

Security 44%

Fulfiment 56%

Total Respondents: 8

■ Fulfiment   ■ Security
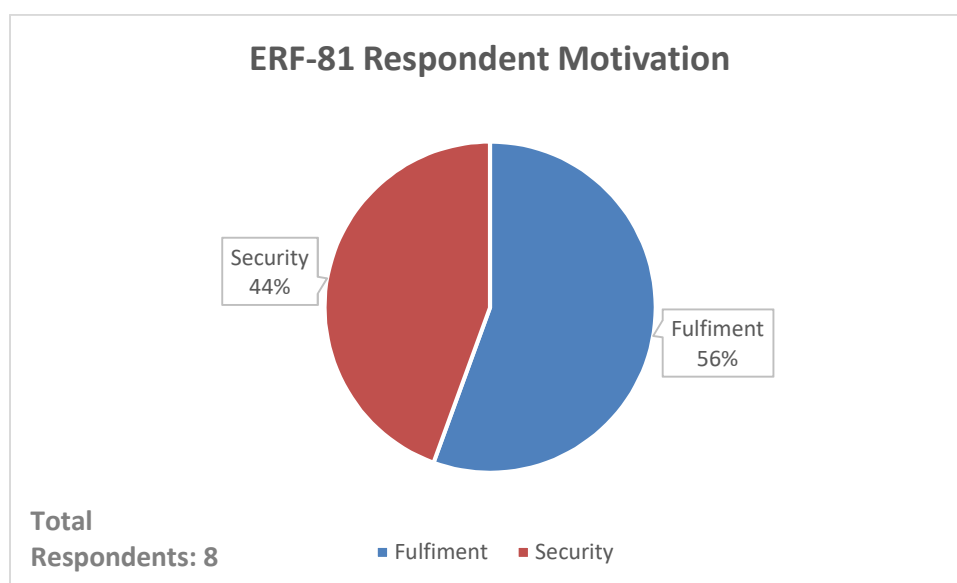
Table 3: ERF-81 Respondent Motivations

The fulfilment aspect from the interviews was shown through how UA and other activities gave purpose to the ERF-81 community that would otherwise be unemployed and isolated from society.

"So, it gives us something to do and business for us to be here and feel a part of the rest of our world."

There are also others that are either in employment or come and work at the farm purely for fulfilment purposes. Therefore, the farm was seen as a place where those in the community could follow their passions whether it be in art, music or the environment.

"It's just that this is one of my passions and because this is my ancestral land and I would want to do is tell my son, you know what I contributed to the ecological sustainability of this land. I am not just specifically talking about ERF-81, I am talking about the whole of South Africa and as I am going for in this, as I have the environmental school of thought in me."

Both aspects were felt in varying degrees by the entire community, with the central idea of ERF-81 being a place where you can explore, develop, share environmental and agricultural skills. This is set alongside the artistic and creative ambitions of the community, which is aimed at creating a strong and dynamic communal atmosphere.

Regarding the security motivations, having access to land that can be lived on and farmed is key. On the farm, there were several members of the community that on a personal level engaging in UA for themselves. The communal farm area was also used by members of the community as an additional food source.

"Here we work in urban agriculture, that seeks to address food security or food insecurities."

There was also livestock on the form of chickens, ducks, goats and sheep that are reared for either eating or as pets. The availability of vacant buildings, with access to water, electricity and sanitation provides the community with basic utility and physical structures. In addition, the farm is surrounded by a wealthy and safe area, that provides a layer of protection to the general security of the place. This is seen to fulfil the basic needs in Maslow's Need Hierarchy theory.

For some of the community members, within the idea of addressing food security, there is a slight radical element towards land and property rights (linking back to McClintocks Metabolic Rift). This seems to be born out of the general dialogue of the popularist EFF party (Economic Freedom Fighters) that is currently in opposition in South African politics. One of its main political policies is land reclamation without compensation from white farmers into black ownership; with some seeing the farm as a part of this process.

"So, this for us, it links to the struggle that actually we can do it, we can get back the land and work it. Expand with the same people that have the same problems. No, not just myself but for all the people who have come from the previously disadvantaged communities. I think that that is how it links and our vision for the organisation."

5.3.3 Abalimi

The motivations from the townships of Nyanga, Gugulethu and Khayelitsha in table 3 shows a strong motivation toward security verse fulfilment which was expected due to the food and income security potential of UA. However, the farmer also clearly got some enjoyment and pride out of what they were doing, through being able to work with their hands to produce their own food.
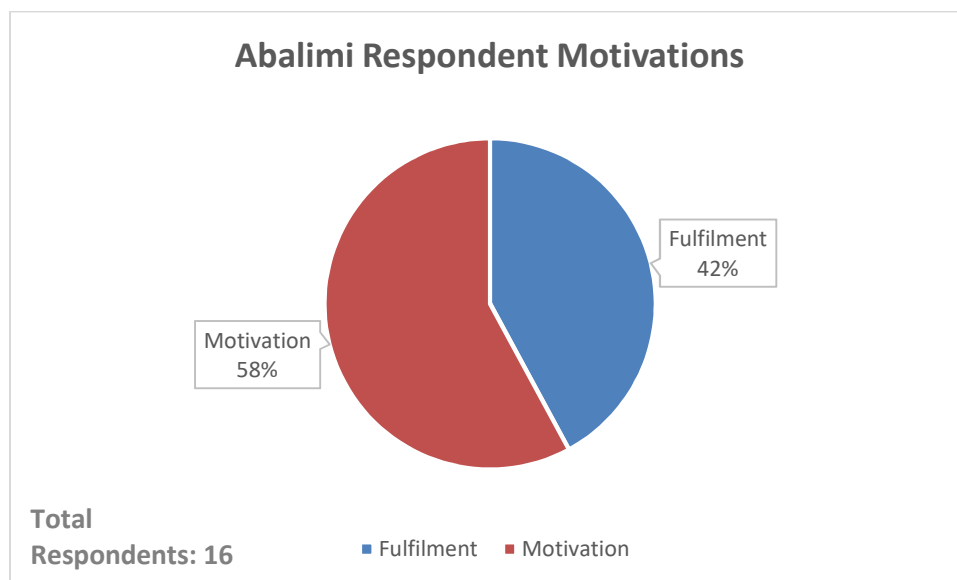
Abalimi Respondent Motivations

Fulfilment 42%

Motivation 58%

Total Respondents: 16

■ Fulfilment ■ Motivation

Table 4: Nyanga & Gugulethu Motivations

The security motivation was mainly regarding supporting themselves and other family members. The nature of Xhosa families and the responsibilities for them extends a lot further from what would commonly experience in the West. Within Cape Town, this has translated into many grandparents taking it upon themselves to support their immediate and extended families. This is due to the guarantee of the older generation receiving an income through their pension and UA allowing them to use this pension to support other family members financially.

"We are old pensioners and our crops provide an additional income. The income that we get from the produce that we sell we put towards supporting our grandchildren and ourselves."

Another aspect of the security motivation was through having a steady and available supply of food in the event that they have run out of money. This was a particularly important survival strategy, allowing most of the farmer to live with a limited or no income.

The fulfilment motivation was mainly seen through the sense of achievement that the farmers felt in watching their plant grow and either selling at harvest or consuming them themselves.

"So, when you see that it is coming and it is doing like you would be expecting it's a very nice feeling. It makes you proud of what you are doing."

This feeling of fulfilment is an important part of keeping the farmers motivated in their gardens due to the hard work involved and limited financial payoffs. The farmers interviews gave lots of examples of how people had joined the farm and had given up after a few months

due to the long-time till harvest and thus payment. In addition, the farmers spoke about the exercise they felt they received while working on their plots. This generally made them feel good and had a positive impact on their health.

5.3.4 Analysis

Motivations for engagement in UA from each of the research sites as seen a steady shift from that of fulfilment to security. A key variable influencing this was land rents and to a lesser extent socioeconomic backgrounds of the community. A majority of those working for OZCF tended to come from the more affluent communities in Cape Town, this was reflected with their motivations that focused more towards fulfilment. While those from less affluent backgrounds tended to use UA as a means of security. This was either in regard to their personal safely or in having reliable access to food and income.

Generally, the motivations at OZCF have demonstrated a desire for fulfilment, either within a social context or as means to contribute and feel a sense of achievement. The motivations for security are limited and are confined to the farmers who come from backgrounds with limited financial capital. In this regard, OZCF played a big part financially towards their livelihood strategy. Although that being said, there is also a degree of passion and fulfilment felt by the farmers in what they do, through working with nature and being able to see the products of their labour. This can be related back to the metabolic rift, with them overcoming parts of the ecological and individual rift. These motivations placed in Maslow's Need Hierarchy Theory, sees the farmers realising the basic and some of the psychological needs of the pyramid. Thus, while seeking security seems to be their main motivation, there are also visible aspects of fulfilment as well.

The volunteers and administrators had a primary motivation for fulfilment, regarding feelings of accomplishment, socialising and exploring their interests and skills. These fulfilment motivations in relation to Maslow's pyramid were seen to cover the psychological needs and the self-actualisation needs. The fulfilment of the psychological needs was particularly important to those coming recently from other countries, with the farm being used as a tool to meet new people. From my own personal experience as a volunteer at the farm, while my initial interest was for my research was in gaining an understanding of how the farm operated. I also felt these similar outcomes of fulfilment through the psychological aspects of the pyramid. This overall, seemed to be consistent with most members of the farm, as a point to socialise, learn and interact with nature.

The community at ERF-81 had strong motivations for each however, the fulfilment motive dominated. This was due to the artistic and communal nature of the community in which UA played an important part. There was also the natural and social aspect that the farm provided, either through the green spaces in a predominantly built-up area or through community interactions through sub-organisations like the Melting Pot. The fulfilment motivation experienced, can be again linked to the psychological and self-fulfilment needs of Maslow's pyramid. However, this differed largely between those in the community due to their own personal circumstances.

Security motivations at ERF-81 were mainly due to the land and existing infrastructure that existed on the farm. This was mainly derived the availability of food, shelter and utilities. These aspects of the farm were important for the of the poorest community members some

of whom have previously been living on the Cape Flats. Thus, for the poorer community members, the farm was an important part of their survival strategy and is seen to meet the basic needs of Maslow's pyramid.

In the township community gardens supported by Abalimi, the farming communities in Nyanga/Gugulethu and Khayelitsha were more motivated by security rather than fulfilment. This was due to the important role that UA played as a livelihood strategy for these farmers as way of income and food security. Most of the farmers interviewed were pensioners and women. Due to the culture of supporting extending families within the Xhosa communities, many of the farmers were not using UA only to support themselves, but also other family members who needed assistance. This again can be categorised as being motivated to meet Maslow's basic needs. However, due to the hard work associated with UA, especially in the townships, many of the farmers also talked about a sense of fulfilment that they felt from working in their gardens. This was an important feature in their motivation for continuing to work in UA, with many others having previously dropped out due to the hard work involved with farming. Thus, the fulfilment motivation felt by the farmers can be translated into meeting the psychological needs as well. This was mainly through the sense of achievement felt in watching their plants grow and the exercise they got from working in the garden.

Overall, there is a distinct change in motivations between the communities in the different research areas. This was expected, with the backgrounds of these communities and the price of land being factors in determining motivations. However, there was also the expectation that the dividing lines between security and fulfilment motivations would be more defined between one or the other. While, this was primarily the case for the UA community surrounding OZCF. The circumstances for ERF-81 and Abalimi communities were more diverse with both a significant amount of fulfilment and security motivations found in their work. This thus points to the ideas that the motivations for UA involvement may be more complex, with multiple reasons and motivations being the driving force behind involvement.

5.4 UA Livelihood Outcomes

5.4.1 Oranjezicht City Farm

The impact that these motivations have on livelihoods was evident from the nodes in the NVIVO analysis. As shown in table 4 the social, human and natural capitals dominated while physical and financial capitals were marginal. This reflects what was shown in the motivations with the main bases for UA engagement being for fulfilment purposes. The reasoning behind this, for each of the livelihood capitals will be discussed below in order of popularity.
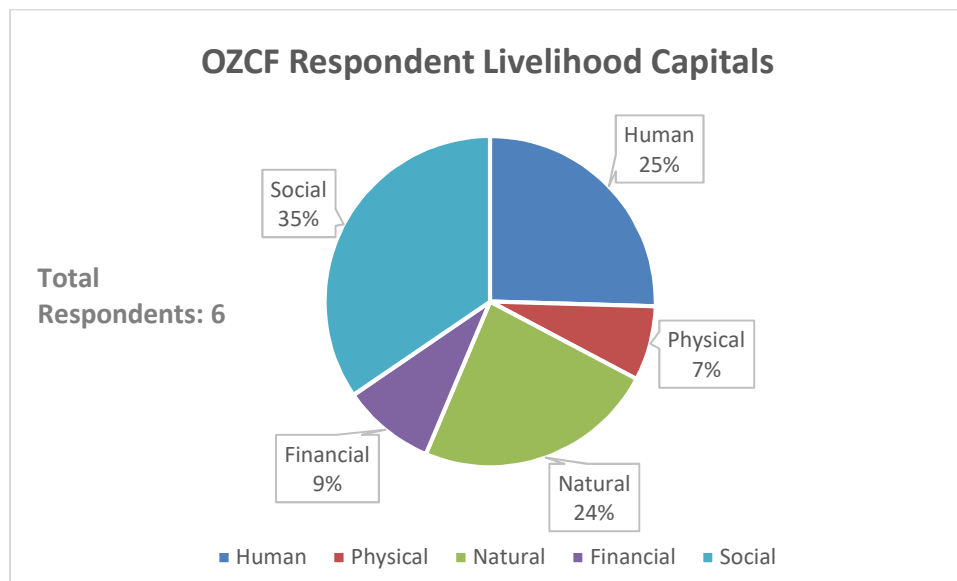
Table 5:OZCF Respondent Livelihood Capitals

Social

The ability to build social capital is one of the strongest features of the farm. This was experienced by most of the participants interviewed. Yet, this building of capital was more widely felt by the volunteers and administrators, than the farmers. However, for the head farmer, the community and particularly the international community involved was an important feature.

"what I find very special about this garden is that it's not just a Cape Town community garden, it's an international community garden."

Additionally, he felt that because of the farm's environmental credentials, it attracted a community with a similar mindset. The result was that he had a place where he could share his views and passions for agriculture or the environment.

"the garden also attracts like-minded people, it's like the church attracts like-minded people if you're Christian, you know, the like-minded Christians, Christian groups. But people who are nature-lovers, they also kind of get attracted to a place."

Although, this view was not shared to the same extent by the other two Zimbabwean farmers. For them, it was felt that they were unable to properly connect with the white community, because of their skin colour and the negative connotations that being of a black racial background sometimes carried. This is not to say that people we openly racist towards them, just that they felt as though they were treated differently by the public in comparison to other members of the farm.

For the volunteers, the community aspect has played an important role in the building of social capital. It is a place (as discussed in the motivations) where the community can meet and connect with one another. This viewpoint is something that is shared by administrators and is one of the main reasons why the farm was founded.

"The main idea of the farm is the connecting part. It is a community, really, it's a community project. That's how they call it, and I think that's really what it is. I think it's amazing what they're doing, it's just great."

However, the community is predominantly white with little in the way of inter-racial mixing within community events. It was also common to find that when volunteering for school visits, with the children often coming from private schools and being predominantly white. The fact that racial interaction is limited brings into question the degree that OZCR could be seen to be fostering social capital for the community in a positive way. I do not feel at all that this is something deliberately done by the organisation, but is more a factor of South Africa's apartheid legacy.

<u>Human</u>

The presence of human capital on the farm was also strong, partly due to the generally high level of knowledge in permaculture and the educational focused approach of the farm. The farmed area is relatively small and hosts a large variety of different crops, with high yields relation to the space available. The three farmer that work the land all had either formal or extensive informal education in agriculture. While working at the farm, they have been given further opportunities to expand this knowledge with the administrators, who took them on a six-month course to learn about permaculture.

"So as a team, we went to the Sustainability Institute, which is attached to the University of Stellenbosch, and over a period of about 6 months, we did modules in a course, dealing with various aspects of vegetable growing, everything from soil to pest control, how you put together an irrigation system"

In this regard, the farm is creating human capital for its employees and its understanding of how to run the farm in an efficient and sustainable manner.

Likewise, the volunteers were working to promote and educate the public about the farm's practices, either through their market and pick your own days. But also through their education programme with the schools and the local community.

"What we were trying to show was the different things about growing your own food, but also how we can eat healthier food."

Programs like these have a positive effect not just on those that have come to learn about the garden, but also those that are involved in the teaching of it.

"these farming projects actually nurture people's leadership skills. And I, I have found that in myself and I have seen it in my farmers."

As a volunteer for the school educational program, I first had to attend an orientation day to learn about the farm and then had further reading to cover before I started teaching. This for myself was a huge learning experience.

<u>Natural</u>

The building of natural capital is illustrated through the fruits and vegetables grown on the farm, but also through the use if permaculture in the growing process. This has a positive

effect on wildlife and reducing the release of harmful pollutants. The role of the farmers is critical to this process, through having a deep understanding and connection of the growing process.

"You know like, once you're working in the plants, you can smile sometimes so that they can smile. If you're always upset, the plant feels it."

The idea of the plants being able to sense your emotions and react to them either in a positive or negative way seems strange, but this was repeated at all the research sites visited. How this could be understood is through the passion that the farmers have for what they do and the satisfaction that they derive from the garden.

"so the garden has a way, it's almost like it calls out to you, because you have this love for it and now it's your duty because it can't speak for itself, but you become the horse for nature."

Thus, they are central to building and maintaining the farm's ecological state and the promotion of its green ideals.

The volunteers and the administrators also hold a similar view on this subject. One of the volunteers described how being in the garden allowed her to find peace and connect with nature (as shown in picture 6).

"I believe that gardens can just bring you and open so much peace and connection, just by being buried in the soil, you know."

"Also, and whenever I'm there, I just love this garden. Whenever I am in this garden I just think, wow, it's so, I mean, you just have to turn around all the time, and you have Table Mountain, Devil's Peak, Lion's Head, it's just wow."

Picture 6: OZCF with Table Mountain (and the tablecloth)

"you know, having an educational background, I thought that is where I would make, would be able to make a contribution, but I actually found that it was really working in the soil, that was, that gave me great joy."

In this regard, the farm builds the natural capital for the community by, providing a place where they can work with the soil, grow food and gather close to Table Mountain National Park.

<u>Physical and Financial</u>

The farm has contributed to the local areas physical and financial capital through providing an appealing space for the community to congregate and thus has had a positive effect on local property prices in the area according to the farms founders.

"One of the things that I was really intrigued to read that if you take an urban, community farm like this, the area around the farm tends to become more secure, as a result of the fact that there is generally a presence here most of the time, the property prices in the area escalate"

This positive effect from UA projects on local property values is reflected in the literature (Mok et al., 2013). Before the OZCF project was launched in 2013, the farm was a disused bowling green and the park next to it had become "a refuge for vagrants and place for drug deals to take place, accumulating rubbish and detracting from the quality of life in the community" (OZCF, 2017).

For the farmers, the farm has increased their physical capital in a limited way, through access to some of the equipment and other resources at the farm. This limitation is due to that none of them live in the Oranjezicht suburb and instead come from economically deprived areas, limiting the physical benefits experienced by those living close to the farm.

However, due to the backgrounds of the farmers, they benefit most in terms of financial capital from working at the farm. The main source of revenue for the farm is through the sale of its vegetables at market days in town or on the farm itself. All three farmers are dependent on this income and probably would not be able to contribute to the farm if there was not the monetary incentive. This is particularly important for the two Zimbabwean farmers stating that their original reasons for coming to South Africa was in search of employment. If they found something with better pay, then they would probably change jobs. Other than the farmers the two administrators also receive some pay due to their organisational work.

5.4.2 ERF-81

The make-up of the livelihood capitals of table 5 shows the farm contributing to strong social, human and physical capital. This can be reflected in the motivations and the general mentality of the farm that looks to reject capitals and create a shared communal society. A more detailed analysis of each of the capitals will be discussed below.

ERF-81 Respondent Livelihood Capitals

Total Respondents: 8

- Social 31%
- Human 27%
- Financial 8%
- Natural 15%
- Physical 19%

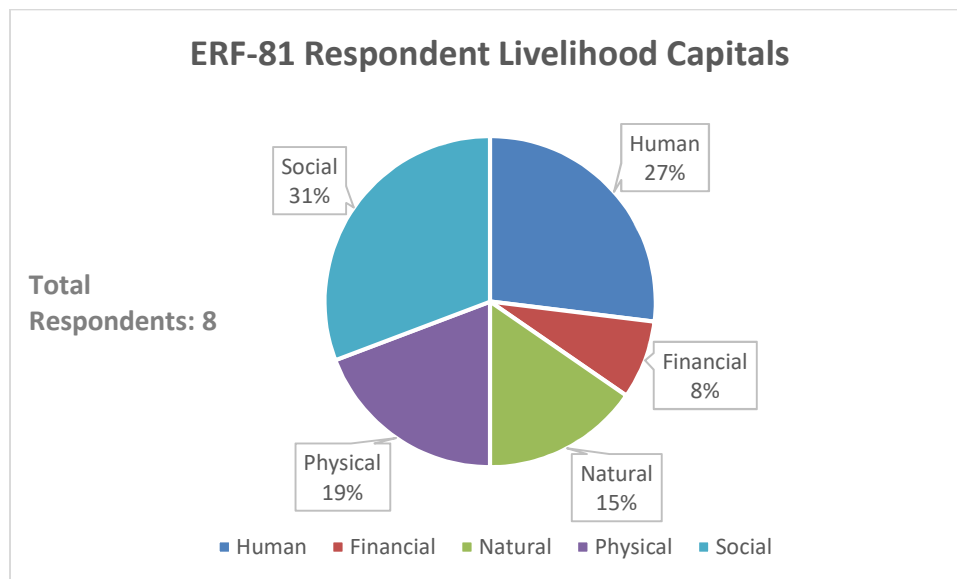■ Human ■ Financial ■ Natural ■ Physical ■ Social

Table 6: ERF-81 Respondent Livelihood Capitals

Social

The social capital of ERF-81 is shown through its shared communal styled community, with everyone bring something different to it. The farm also benefits from its central and accessible location in the city (in relation to the Bid Rent Theory), with a lot of interaction coming from the local community through its market days. The community uses the different branches under ERF-81 (the Melting Pot and Tyisa Nabanye) as a way of attracting a wide variety of people.

"I spend my time as a gardener, vocalist and artist. I also connect with people and bring people to this space and so I am good at connecting with people and meeting with people. Just like you know, I am carrying the flag, so that's networking, its communicating, it's using music as a tool."

In addition, ERF-81 buildings on social capitals across racial boundaries. While the surrounding community is predominantly white, the community on the farm is interracial with a variety of different skill sets and interests.

Human

The farm's capacity for building human capital, is linked back to social capital as this network is essential for the sharing of skills amongst the farm's community. It is also encouraged that people from outside of the community come and join as well.

"it's just for anyone who wants to come here and learn, through our activities. We do the market, planting days, events on the garden and events about environmental awareness. For example, we would hold what we call a garden party, where you would invite different people, who would specialise in different things."

In this sense, the farm is building the human capital with strong UA and environmental connotations. This benefits those on the farm, but also those coming from the surrounding community to volunteer at attend events.

<u>Physical</u>

Physical capital relates the existing physical structures on the farm that is provided in the form of shelter, security, and access to utilities for its residents. The absents of physical capital is something that particularly affects the urban poor in Cape Town, due to a general lack of access to good affordable land and housing. Thus, this is the main appeal for people to live and participate in the projects at ERF-81.

"it links within the struggle for land. You know because we were in the township and we didn't have land and somehow, we ended up in this prime property."

For the Tyisa Nabanye (ERF-81's community plot), to get it initially started, the residents launched a crowdfunding page to pay for things like tools, seeds and manure. In addition, they got sponsorship from an irrigation company to help with the set up if their own irrigation system and a seedling nursery. Although recently, Tyisa Nabanye has fallen into a state of neglect, due to some members leaving the community and the current drought that the region is facing (picture 7 & 8). Yet, the community is now actively working to revive it and find ways to overcome these shortcomings.

Picture *7 & 8*: Tyisa Nabanye vegetable plots

<u>Natural</u>

The natural capital on the farm is reflected in its close proximity to Signal Hill and the Table Mountain National Park. Picture 9 shows how the local vegetation have begun to take back the property.

Picture 9: View of the road going up through the farm

The wild and untamed natural setting, complements the general mentality of the place and is part of what attracts people to it.

"My parents originally stayed downtown, it was like a concrete jungle you know. Not very much happening, with very limited play space. Our play space used to be the streets, running around and up and down you know. But then I came to this place at a really young age. When I came here for the first time and just was amazed by what I saw, with all the space, all the children playing and everyone seemed so happy. So, I told them that I like made it a mission to be here all the time and often as I can. After school or if I can before school, I would stay over and stuff like that. I really enjoyed it"

Within the farm, there is a lot of vacant land that is either disused or for the grazing of animals. While there is a communal farming area (Tyisa Nabanye), the residents also practice growing their own food on a smaller scale for themselves with the ERF-81 boundary. Within these farms, the community focuses on being organic and working with nature; enhancing the area's natural capital.

<u>Financial</u>

The financial capital on the farm is very limited, which again fits into the self-sufficient, anti-establishment attitude of the place.

"We get no government funding and we raise our own funds to market, like with some contributions and stuff and sell our produce from the garden."

The main source of income for the farm's residents is from their market day, where they sell what they produce on the farm. This is generally food and crafted objects produced on the farm. The money that they take away from these days, either goes towards themselves or the farm (although that was not made particularly clear). They have also relied in the past on donations and crowdfunding to fund projects such as Tyisa Nabanye.

5.4.3 Abalimi

The contribution made by UA to the building of capitals in Khayelitsha and Nyanga/Gugulethu is seen in table 6. It shows that the major outcome in the building of the capitals was with human capital. This is followed by financial and natural capital, which was expected due to the lack of green space and financial vulnerabilities for those living on the Cape Flats. The details of which are discussed below.

Abalimi Respondent Livelihood Capitals

Social 15%
Financial 22%
Physical 9%
Human 32%
Natural 22%

Total Respondents: 16

■ Financial   ■ Human   ■ Natural   ■ Physical   ■ Social
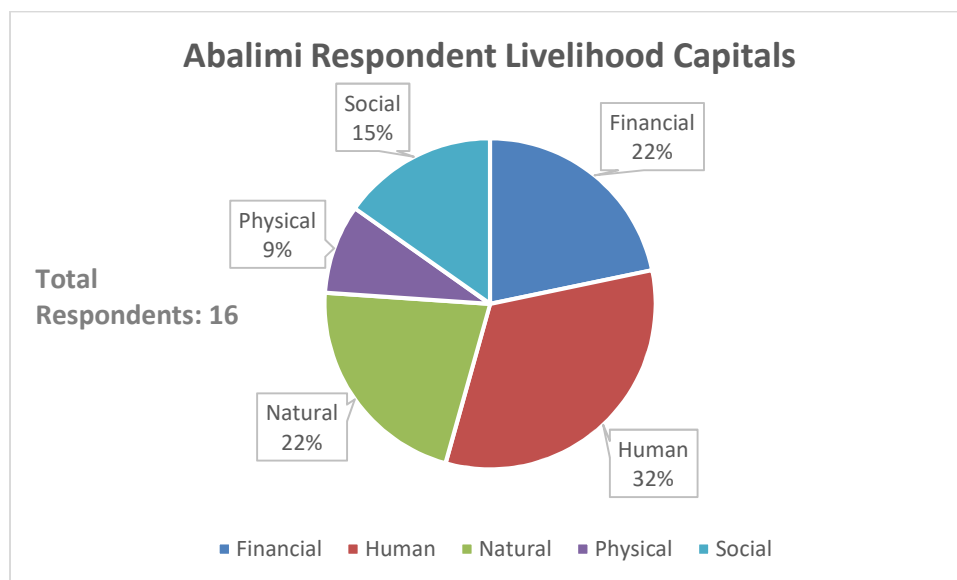
Table 7: Abalimi Respondent Livelihood Capitals

Human

Human capital dominated through the health benefits (diet and exercise) and the learning process of being involved in UA. Abalimi often held workshops to educate their farmer on how to grow food organically using permaculture.

"As long as we are getting these fresh vegetables and the other things is that every time they take us for the workshops, we learn more and more. So, even us as black we don't usually know about the herbs, but now we know more about them and what positive things they can do for the health of us. So, it gives us more information which is nice."

In addition, the farmers also learnt about the positive impacts that having a healthy diet can have. This access to fresh vegetables and an understanding of the health benefits is important for a country that traditionally pays a premium paid for fresh produce, putting it out of reach to many.

Another interesting feature was the opportunities that the farmers have been able to build for themselves while working in UA. An example would be with one farmer being chosen to represent the Cape Town based Vukuzenzela Urban Farmers Association on a six-week educational conference at MST (Movimento dos Trabalhadores Sem Terra or Landless Workers Movement) in Brazil. Here, he was joined by farmers from 26 other developing nations to learn about areas regarding land rights, mining and agriculture.

Financial

The major financial benefits from working in UA is the income derived from selling the harvest to the local community or HOH.

"There is also a sense of freedom through the money that I get through working in the garden and the being able to do what I want with it. It is important because of the lack of jobs here. The money that I earn is used to help me and my family, but also improving the garden."

The income from the garden is important in empowering and supporting other livelihood capitals, with it being used both a domestic and commercial setting. This aspect of UA is particularly empowering for women, who were no longer solely dependent on their partners for the household income.

Some of the community gardens were also sponsored by the state, through giving work to the unemployed in the community garden gardens. However, this was generally only for a short period and once the government money stopped, it was common for them to go off and find other work.

Natural

The farmers that supply Abalimi must be organic in their growing practices, often using a variety of permaculture methods to achieve this. Being organic helps support local bio-diversity, along with greening open spaces that would normally be made up of sand or rubbish. From the farmers interviewed there was a sense of pride in being organic and a willingness to share this with their community.

"There are some people [that] do not understand the word organic, so that is another challenge that we as farmer need to teach them about all organic things. So, that they can be more interested in what we are doing. I used to visit some of these backyard gardens to show them and teach them how to start a garden."

In sense, the farmers are seen to act as an educational platform for the community in building their own gardens and understand how certain practices can be environmentally damaging.

Additionally, the experience of being outdoors in the garden is an important aspect for the farmers, due to the limited green spaces.

"We would say for us, I mean just being outside in the garden, just breathing that air makes a difference because the environment when you are in the garden is different from the one when you are at your home. Because there are lots of things happening, because we do not have lots of green and lots of trees."

This is important in positively contributing the general mental and physical state of the farmers, through the self-creation and access of green spaces.

Social

Working in UA has helped the farmers develop their social capital through interacting with other farmers in the Abalimi network and creating a visible sense in their communities through their farms.

"Yeah, we know of them because we have got meetings with the farmers from other gardens form this and other townships and we meet every now and again for classes or to discuss our farms."

"I am getting to know more people. But not that many for now. But we are now making fliers to give to most of the local places to let them know about what we are doing."

While conducting the interviews, it was hard to determine the extent UA was seen to build social capital and how this contributed to existing social networks within the community. While visiting the different gardens with our guide, this was evident through the number of people she knew and the pre-existing relationships that the farmers had with one another. Thus, it appears that social capital is already quite high within the township areas (and informal settlements), as has been documented in previous research by (Oliver et al., 2016; Gallaher et al., 2013) and so the contribution made by UA in minimal.

However, what was interesting was the limited involvement from the youth in the gardens. This was highlighted by many of the respondents, reporting a stigma around UA involvement from the youth, with farming either being regarded as backwards or the work of slaves.

"there is a stigma around gardening, because people in their minds, they have got this belief that gardening is just for poor people. So, the youth don't want to come."

This has resulted in many of the farmers being questioned on their mental state, with their involvement in UA being attributed to conforming to the old ways and expectations of the past. Thus, this can also be an explanation for the limited social capital gains seen for these areas.

<u>Physical</u>

The contributions of UA to physical capital from the interviews was minimal. However, this was felt to be under-represented, with UA providing a range of resources that the farmers would not have otherwise had access to. Reasons for why this appear in the results could be due to the shared nature of the farms resources such as tools, water and shelter (see picture 10). In addition, out of all the farms visited, the ones in the township areas were least equipped and often had to make do with less.

Picture 10: Farm storage unit and pump house in Khayelitsha

5.4.4 Analysis

Each of the research sites had similarities and differences in how UA contributed to the building of different livelihood capitals. This was expected due to the differing backgrounds, land rents and motivations between the research sites.

For OZCF, the capitals that it contributed most was the building of social, human and natural capital. This was felt mainly by the volunteers and administrators and a lesser extent by the farmers. These results were expected due to the affluent backgrounds and strong fulfilment motivations of the administrators and volunteers on the farm. Yet, it not expected was to find employees (farmers) on the farm, as to the organisation advertising itself as volunteer run. In addition, these farmers came from comparatively poorer backgrounds, thus had an influence on the building of financial capital in the results.

The main contribution to capitals for ERF-81 was also from social and human, in line with the farm's strong fulfilment motivations. This was explained by the sturdy community bonds and the educational focus, spanning from the arts to sustainable agriculture. The building of physical and natural capitals was also significant. For physical capital, this was the main security motivations for the residents due to the shelter and access to utilities that the farm provided. For natural capital, it was with the large amount of green open space and a general availability of land. Although, these capitals were still felt to be a little neglected and underexploited with the potential to develop them further. The presence of financial capital was limited, due to the communal nature of the ERF-81, with many making do with the existing resources on the farm. In addition, the farm was trying to get the community plot (Tyisa Nabanye) up and running again, for commercial sales at the farms weekly market. This will likely have a significant impact on the building of financial capital in the future.

Abalimi saw a strong building of capital in the areas of human, natural and financial. The strong presence of human and natural capitals is seen to represent the fulfilment motivations of farmers. The significant contribution of financial capital can be attributed to the security motivation, with many using UA as an important part of their livelihood strategy. The

dominance of these capitals is the result of a previous lack of knowledge in farming, limited green spaces and high unemployment in the townships. It was thought that within the Township areas, UA would also contribute significantly to social capital. However, from the interviews, the gains achieved were marginal, possibly due to a high degree of social capital that already existed in the township areas. In addition, it was also thought that UA would do a lot towards the building of physical capital, due to the limited resources that the farmers had and the potential achievable gains. The relevance of physical capital was however marginal. This may have been because a lot of the gardens were divided into plots, with shared farming resources regarding tools, water, shelter. Yet this was still left unclear.

Between all the research sites human capital dominated the building of livelihoods. The broad educational roles that UA plays within human capital, was particularly interesting and unexpected. However, the fact that human capital is also extensive is quite logical, due to the large learning curve involved when entering agriculture in general. Additionally, most of those involved in UA had little prior knowledge or experience in this area. Thus, explaining why the potential for human capital building was so high. Other similarities in the livelihood capitals are seen between OZCF and ERF-81 in relation high levels of social capital; along with OZCF and Abalimi in relation to natural capital.

There is a distinct variation in the livelihood capital gains from each of the research sites resulting from UA. These different gains were expected due to the backgrounds of the communities studied, land rents and differing fulfilment and security motivations. However, the motivations and land rents between research sites were varied. This variation has been reflected in the way UA was perceived to build different capitals. For motivations specifically, the high amount of natural capital that UA was seen to contribute to fulfilment in the Abalimi research sites. Another would be at ERF-81, where the difference between motivations was marginal and yet social and human capital largely dominate. The reverse cannot be said for OZCF, which largely dominates in all the capitals that would be associated with fulfilment. A possible reason for this is due to the time-consuming work involved with UA to produce an income and the wider variety of financial options available to people in more affluent communities (linking back to land rents). For instance, UA projects close to the CBD being limited due to lack of commercial space available for farming, leading to either intense UA cultivation or more likely being used for social enterprise. Vise versa, those further away from the CBD (township areas) have access to more land, therefore making UA more commercially viable.

Overall, the potential for capital building shown from UA links back to Amartya Sen's ideas behind Development as a Freedom, through the ability to expand different freedoms in relation to individual needs. Examples of this have been showing in each of the research sites, with different capitals highlighted in relation to the different needs of these communities. This suggests that UA has a lot of diversity as a tool, with credible application in each of the communities researched.

6. Conclusion

The inspiration for this thesis lies in the divide in UA literature between a North or 'developed' strand and a South or 'developing' strand as put forward by several authors (most

prominently Battersby & Marshak, 2013; WinklerPrins, 2017; and McClintock, 2010). A starting question was why people engage in UA and what they derive from it, particularly considering UA is found in different parts of the world. Obviously, this thesis is unable to cover such a large academic debate and it by no means pretending to do so. However, the data and findings presented hold in-depth notions gained, can allow better understanding in future research. By comparing UA in three different projects, with each their specific focus and goals, it becomes possible to theorize about underlying patterns that lead to engagement in UA. The main focus points in this thesis to compare were land rent prices, motivations and outcomes. Indirectly, wealth in the form of socioeconomic background was taken into account.

For understanding the socioeconomic background, questions were asked regarding education, occupation, age, gender, mother tongue and family background to give a broader sense of factors that influenced UA involvement. A discussed then followed with pictures to give a background as to how this was distributed among the different communities studied. Generally, each research site was different. Those within the OZCF community were from mainly white, well-educated affluent backgrounds; using UA as an activity for their free time as a way to engage with other members in their community and learn about farming. The ERF-81 community was made up of a variety of different individuals from a range of different social and ethnic backgrounds. Those living within the community were not comparatively as wealthy as those from OZCF, however were still better off than those from the Abalimi community. Most of those involved at ERF-81 came from creative backgrounds and used it as a place for artistic expression, alongside the UA that was being practiced either communally or individually. Finally, those from the Abalimi UA projects were mainly comprised of women and pensioners from Xhosa decent. Many had previously come from the Eastern Cape and were involved in UA to support their families. Being the least well off out of the three research sites, UA made up an important part of their livelihood strategy, with their produce either being consumed or sold.

In determining how land rents, the Bid Rent Theory was used as a framework for understanding how the value of land influenced land use as you moved further away from the CBD. From this, there were two points of interest, first if there was any variation in the crops grown and second whether moving further away from the CBD saw a shift in UA being used for social to commercial enterprise. Between the different sites, there was little variation in the crops grown. Only ERF-81 used livestock alongside the crops grown on the farm. There was however, a clear shift in whether UA was being focused towards a social or commercial enterprise. The result of this saw, the UA farms in the City Bowl, close to the CBD (OZCF and ERF-81) using UA to bring people from the surrounding community together and use as an educational tool. This was made possible due to their central location and accessibility to a larger about of the city's population. However, ERF-81 was a bit of an anomaly with it being close to the CBD, but however having some of the lowest land rents and the largest land area out of the three research sites. This affected the theoretical expectations, with the farm being socially focused, but also having a low density of food production that would be expected at a sizable distance from the CBD. In contrast, the Abalimi projects were located quite a distance away from the CBD with limited access. As a result, the focus of the Abalimi farmers was more towards commercial enterprise and used UA as an important part of their livelihood strategy.

There was a clear shift fulfilment and security motivations between the different research sites. However, within each of the organisations, there was not one single motivation dominant. Rather both were incorporated, with one being slightly more dominant than the other. In the case of OZCF, while the majority of the community were involved for fulfilment purposes, for the three farmers employed on the farm, all were largely motivated by the security that the job provided. That said, they also showed a feeling of fulfilment from their jobs through being outside and working with their hand or through social interaction with other people on the farm. For ERF-81, motivations were less defined with slight stronger fulfilment motivations being shown. This was linked back linked back to socioeconomic backgrounds of this community, with many coming from a mixture of different backgrounds. In addition, for the poorer residents living on the farm, there is a lot of basic existing infrastructure in place to meet their basic needs. This space also provides room for an individual to build relationships and follow their own personal interests. Finally, Abalimi was interesting as it was expected to have overwhelmingly strong security motivations due to the land they worked on be comparatively cheaper than the rest of the city. In fact, this was not the case, with only a slight dominance in security motivations. The farmers, although from similar backgrounds, also gained a lot of fulfilment from their work and were passionate about their gardens. This could be explained by the hard work involved, with the security provided by the farm not being a big enough incentive alone for motivating involvement in UA.

The outcomes in relation to the different livelihood capitals saw a marginal shift in the dominance of capitals in relation to UA involvement. In determining this, the three dominate capitals from each of the research sites were looked at in relation to motivation and the previous findings from land rent and socioeconomic backgrounds. For OZCF, the three main capitals that dominated were social, human and natural, reflecting the strong fulfilment motivations seen for the area. For ERF-81 there were also strong social and human capitals that correlated with fulfilment. Yet, the significant amount of physical capital at EFR-81 also correlates back to the security motivations discussed earlier. This was expected due to the mix socioeconomic background of the community with both significant fulfilment and security motivations being present. Finally, Abalimi also followed this pattern with a sizable contribution to human, natural and financial capitals, although motivations were slightly more dominated towards security. This was unexpected as it was thought that the community gardens would be more security focused and thus would have stronger financial and physical capitals. Outcomes for livelihoods also showed the diversity that UA had in developing different capitals in relation to the different UA communities background. In addition, the strong presence human capital between each of the research sites indicating the beneficial effects of UA on physical health, diet and skills. This outcome was not expected but was the most significant feature contributing to livelihoods shared between all the research sites.

In relation to my initial research question, the primary assumption made was that wealth played an important feature in determining the reasons for partaking in UA. Within this research, land rents and to a less extent socioeconomic backgrounds was set as the bases for defining the wealth breakdown between the different sites. The land rents were also used to see how engagement in UA changed as the distance from the CBD increased from social to commercial enterprise. This linked to motivations that were broken into either security and fulfilment and outcomes, looking each of the livelihood capitals that the UA communities gained from their engagement. The result of this was that wealth in the form of land rents plays a significant role in defining the focus of UA, the motivations and the outcomes. This

was seen within the UA communities with higher land rents located close to the CBD focusing more on the social/fulfilment aspects of UA. While those UA communities with lower land rents based in the townships were expected to focus more on the commercial/security aspects. This was not entirely the case and while the farms were commercially/security focused, they also got a lot of fulfilment from their work, forming an important part of their continued commitment to UA. This goes against the literature divide, highlighted in the North-South Paradigm, with those from less affluent areas showing both strong fulfilment and security motivations. This mixture of fulfilment and security motivations for the UA communities based in the townships shows that for them, the role of UA is more diverse and can be potentially applied to address a variety of issues.

7. Discussion

This section will discuss the limitations experienced during the research, suggestion for further research and recommendation for the application of UA within Cape Town.

7.1 Limitations

7.1.1 Data collection

During the data collection, there were several limitations experienced. This was mainly regarding contacting UA organizations in Cape Town and in the formation of the interviews.

While in the field, all of the key UA organizations that were relevant to the research were contacted with little issue. However, it was felt to be beneficial to contact with some of the other UA related organisation in Cape Town. These were mainly SEED and Soil For Life that operated in the townships promoting UA. In addition, the legislative organisations such as the municipalities Urban Agricultural to understand their role in educating and supporting UA projects. However, little to no response was received, limiting the potential to present a broader picture the role that they played for UA in Cape Town.

For Abalimi and ERF-81 that took part in the research, there were also issues that likely affect the validity of the results. In the case of ERF-81, the community was felt to be suspicious of strangers that visited outside of their public events. In addition, the general disorganised nature of the place made it difficult to arrange interviews with the with the farms community formally. The result of this was that only one focus group was conducted with eight individuals, limiting the level of detail in relation to the research objectives. The data collection instead, had to rely heavily upon on personal written experiences and photographs from visiting events or volunteering on the farm. This leaves a greater risk of bias as a lot of these written accounts are subjective to my own personal experiences.

A similar experience was felt with Abalimi. This was mainly due to the farms being spread out in multiple townships and issues relating language and security. While visiting the different farms, we were taken around by a guide from the organisation who told us about the farms and translated from Xhosa to English where required. The format of this was thought to affect the results in a few ways. Firstly, we were limited to the sites that our guide wanted to show us. This was probably due to reasons regarding safety and accessibility. However, this could have limited our reach to the most deprived areas. In addition, most of the farmers only spoke Xhosa, meaning that we had to rely heavily on our guide to translate our interviews. This ran

the risk of bias, with the guide have an interest in placing Abalimi in a positive light and possibly affecting the accuracy of the interviews.

Difficulties were encountered in determining the land values for each of the research sites the municipal, General Valuation Roll (GVR) was used. While this gave the land value for OZCF and ERF-81, they did not have a valuation of the Abalimi community farms. To overcome this, the land valuations for properties close by to each of the farms used instead, to give an idea of the local land value for that area. However, this was still a limiting factor to the accuracy of the final results for land rents. Another issue was with ERF-81 and the extremely low land value that was given by the municipality. The value of 300 Rand per m^2 was not felt to be accurate, due to the surrounding properties being valued at around 7,000,000 Rand (General Valuation Roll, 2015) and the price per m^2 being lower than the average for the townships. Finally, the data for the land valuations comes from 2015 and may no longer reflect the true price of what the land is now. Since 2015 the South African economy has experienced difficulties, which has seen a significant drop in the Rand. While at the same property prices in Cape Town have been rising. This could result in higher land prices to what is currently show from the municipalities current valuations.

While conducting interviews between the different research sites, the aim was beforehand to try and keep them as standardised as possible to help with the analysis later. A part of this was through making the interview guide and having interviews last from between 45 minutes to an hour. While for OZCF this was not a problem, for Abalimi the time to interview the farmers was generally between 10 to 15 minutes limiting the depth of the interviews. Furthermore, due to the semi-structured nature of the interviews meant that due to time constraints, often key points in determining demographics, motivations and capitals was missed. Additionally, the wording of the questions for section C and D in the interview guide could have been changed to link more to the building of capital. Thus, it may have been better to have instead conducted structured interviews to gain more concrete answers. However, due to most of the data being collected with another student with different research objectives, this was not practical. Moreover, it would not have allowed the same quantity of data to have been collected, especially in the township areas where I would not have felt comfortable collecting data by myself.

Finally, the data collection focused mainly on community farming projects as this was the main form of UA for the three organisations involved in the research. However, it excluded the practice of backyard farming that is also very popular in places like the townships. This form of UA was supported by SEED and Soil For Life, with a focus on vertical farming systems and making land close to home suitable for small-scale agriculture. Due to the location and small-scale nature of these farms, it is likely that their motivations would have been primarily for security. Thus, the security motivations in the township areas may be larger than what was shown in the fieldwork data collection.

7.1.2 Data Analysis
The data analysis had limitations regarding theories and methods used. This limited the degree of depth for the analysis and the final results. These were primarily in issues with Maslow's theory and the categorisations of the different capital from the sustainable livelihood framework.

For Maslow's Need Hierarchy theory, while it is very good at generalising how basic motivations develop. However, it was too simplistic and is unable to categorise some of the motivations that arose from the interviews. This was seen particularly for political motivations seen at ERF-81 regarding land redistribution and health motivations from access to fresh organic produce that was expressed across all the research sites. This resulted in difficulties in categorising some of the motivations into either security or fulfilment, leaving a risk of bias. Part of the reason for the theory's simplicity is that it has traditionally been applied to a workplace environment and therefore is limited in a wider societal context. Another issue was the individualistic nature of the theory. This was adapted towards a more community focused approach and looked more at the community motivations within UA, rather the motivations for the specific individuals. While this generally worked well, I am also aware that adapting the theory in this way could act as a limiting feature.

Within the sustainable livelihood capitals, the definition of the capitals was also broad in their coverage area. This was particularly felt in the case of building human capital, where the DFID description covered a variety of areas including skills, health, education and physical ability. Within the analysis, each of these was discussed to show which were most dominant. It would have been useful to make sub-categories for each of these traits to get more meaningful and comparable result. In addition, due to the interlinked nature of the capitals, it was often hard to categorise parts of the interviews into certain capitals. This was often left to my own interpretation of the capitals that may have been different from someone else. The difficulties in defining the capitals leave room for bias (as with motivations) in how the results were interpreted even through the SLF was followed closely in the creation of NVIVO nodes.

7.2 Further Research

This thesis has sort to contribute to the existing UA literature regarding how wealth in the form of land rents effect the type of UA taking place, motivations for engagement and the outcomes for the communities involved. By looking at these factors together, a link can be drawn as to why different communities get involved with UA and what perceived benefits they derive from it. This not only gives an idea as to what supportive measures can be put in place to help with the promotion of UA, but also how UA could be used to tool to support and strengthen communities.

In the case of OZCF, the introduction of the farm provided a place in which the community could come together to socialise and learn about the different environmental approaches associated with UA. OZCF had the effect of breaking down existing physical barriers (high walls and security) that had been built up around the properties in the area. The farm gave a space to neighbours that were previously isolated from one another to meet and socialise. For ERF-81, UA centred around art and creative culture and acted as a part of this counter movement to consumerisms. Finally, the Abalimi farms used UA as a means of income and food security, but also for exercise and mental satisfaction. It would have been interesting to look at this in greater detail and also the potential negative outcomes that are associated with UA. However, due to time limits and difficulties with the data collection this was not possible.

Another area for further research would be in testing Battersby and Marshak's North-South paradigm on a global level. While the paradigm was taken as inspiration for the direction of this thesis. It would have been interesting to see how the paradigm plays out either between a developed and developing nations capitals or even compare two developing nations. In

addition, the background social and cultural contexts are likely to have a significant influence on the motivations and outcomes for UA in these places.

Finally, the research in the townships provided the most interesting and dynamic results for the thesis. It would be interesting to do a more detailed study of the role that UA plays in these communities. Particularly between the coloured Afrikaans and black Xhosa speaking communities that make up the Cape Flats. Another area would be in how the motivations and outcomes for UA change between the community and individual farms. The role of individual farms was an area that was not covered in the research, however, was very present in the townships from discussions with farmers and the work of SEED in Mitchells Plain.

Overall, what this thesis has shown that UA can be used as a policy tool to tackle different issues in different communities. Furthermore, due to the green connotations associated with UA, the environmental benefits are shared between each of the areas that it is applied. Whether this is physical or educational, UA has shown to be a potential feature of stronger and more integrated urban environments.

7.3 Recommendations

7.3.1 UA within Cape Town

Results of this thesis suggest that continued support of UA will have a positive impact for all the city's residents in improving food security and building social connections within local communities and the broader Cape Town area. Currently, due to the city's low-urban density, there is a lot of potential to localise food production further. This is already being traditionally in the Philippi Horticultural Area and has space for further expansion on vacant land within the city. This has the positive effect of limiting food miles and promoting recycling of organic waste that would otherwise be going into landfill. In addition, community farming projects have been proven to helping in developing the social fabric of the community and connecting residents that have isolated themselves in the past over security fears.

Thus, this thesis would urge the city of Cape Town to continue to promote and support UA projects through its Urban Agricultural Unit and in partnership with the Department of Agriculture. It would also recommend changing its focus areas to not just being towards the urban poor and rather to all the city's residents who are interested in the variety of areas that UA facilitates.

7.3.2 UA within Sustainable and International Development

Within international development, this thesis has questioned the apparent divide in the literature between the coverage of UA practices in the developed and developing world. This research suggests that the role that UA can play for communities with different backgrounds is far broader than what the North-South paradigm proposes. This is due to the diverse motivations and outcomes shown within UA in relation to those with different land rents. As a development tool, UA can give communities the ability to feed themselves and gain feelings of pride and dignity in what from their produce. It also assists in the building of skills, general health and building stronger, more resilient communities.

From a sustainable development standpoint, UA added to the greening and overall visual appearance of an area. This is particularly beneficial in areas of informal settlements where the land is either built on or used for rubbish. This thesis suggests that UA can act as an

educational tool for wider environmental issues and provide an important use for recycled organic material. Furthermore, all the UA farms visited in Cape Town were organic using natural pest control techniques to manage their crops. This is not only beneficial to the health of the farmers, but also the local community and wildlife.

Thus, UA in both contexts does not just constitute an important survival strategy, but also one that has a wide range of benefits within and beyond the farmed area. While the financial gains from the research sites were shown to be minimal and only really to helped those in poverty. The number of additional benefits experienced point towards the potential for UA to be used as a far broader tool in addressing societal issues.

8. References

OZCF. (2015). Annual Financial Statements. Retrieved on 20th January 2018, from: http://www.ozcf.co.za/wp-content/uploads/2015/01/OZCF-AFS-2015.pdf

Arribas-Bel, D., & Sanz-Gracia, F. (2014). The validity of the monocentric city model in a polycentric age: US metropolitan areas in 1990, 2000 and 2010. *Urban Geography*, *35* (7), 980-997.

Badami, M. G., & Ramankutty, N. (2015). Urban agriculture and food security: A critique based on an assessment of urban land constraints. In *Global Food Security*. Vol. 4, p. 8-15.

Battersby, J., & Marshak, M. (2013). Growing Communities: Integrating the Social and Economic Benefits of Urban Agriculture in Cape Town. In *Urban Forum*, 24(4), p. 447-461.

Battersby, J. (2016). *The State of Urban Food Insecurity in Cape Town* (No. 11). Southern African Migration Programme.

Battersby, J., & Crush, J. (2014, June). Africa's urban food deserts. In *Urban Forum* (Vol. 25, No. 2, pp. 143-151). Springer Netherlands.

Battersby, J., & Peyton, S. (2014, June). The geography of supermarkets in Cape Town: Supermarket expansion and food access. In *Urban Forum* (Vol. 25, No. 2, pp. 153-164). Springer Netherlands.

Bebbington, A. (1999). Capitals and capabilities: a framework for analyzing peasant viability, rural livelihoods and poverty. In *World development*, 27(12), p. 2021-2044.

Bing Maps. (2017). Bing Maps. Retrieved 28th November 2017, from: https://www.bing.com/maps.

Bruinsma, W. & Hertog, W. (eds.) (2003). Annotated bibliography on urban agriculture. Swedish International Development Agency (Sida) & ETC – Urban Agriculture Programme in cooperation with TUAN and other organizations.

City of Cape Town (2007) *Urban agriculture policy for the City of Cape Town.* Cape Town: City of Cape Town.

City of Cape Town. (2012). *2011 Census City of Cape Town*. Cape Town: Statistics South Africa.

City of Cape Town. (2015). General Valuation Roll. Retrieved 20 January 2018, from: https://web1.capetown.gov.za/web1/GV2015/Results?Search=ADD%2c%2cKENMORE

City of Cape Town. (2016). *Socio-economic profile*. Cape Town: Western Cape Government. p. 16-18.

Creswell, J. W. & Poth, C. N. (2017). *Qualitative inquiry and research design: Choosing among five approaches*. Fourth Edition. London: Sage publications.

Deelstra, T., & Girardet, H. (2000). Urban agriculture and sustainable cities. In *Bakker N., Dubbeling M., Gündel S., Sabel-Koshella U., de Zeeuw H. (2000) Growing cities, growing food. Urban agriculture on the policy agenda. Feldafing, Germany: Zentralstelle für Ernährung und Landwirtschaft (ZEL)*: p. 43-66. Retrieved on 15th May 2017, from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.168.4991&rep=rep1&type=pdf)

Department for International Development (DIFD) UK. (1999). *Sustainable livelihoods guidance sheets*. London: DFID.

Easterlin, R. A., McVey, L. A., Switek, M., Sawangfa, O., & Zweig, J. S. (2010). The happiness–income paradox revisited. *Proceedings of the National Academy of Sciences*, *107* (52), 22463-22468.

Food and Agriculture Organization of the United Nations (FAO). (2012). *Growing greener cities in Africa. First status report on urban and peri-urban horticulture in Africa.* Rome: Food and Agriculture Organization of the United Nations. (Online version of 2012). Retrieved on 15th May 2017, from: http://www.fao.org/docrep/016/i3002e/i3002e.pdf).

Frayne, B. & Crush, J. (eds.) (2010). *The state of urban food insecurity in southern Africa.* African Food Security Urban Network (AFSUN): Urban food security series, No. 2. (Online version of 2010). Retrieved on 1st December 2017, from: https://www.researchgate.net/profile/Wade_Pendleton/publication/228495588_The_State_of_Urban_Food_Insecurity_in_Southern_Africa/links/0046353467f7587231000000.pdf).

Frayne, B., McCordic, C., & Shilomboleni, H. (2016). The Mythology of Urban Agriculture. In J. Crush, & J. Battersby (Eds.), *Rapid urbanisation, urban food deserts and food security in Africa* (1st ed,. pp. 19-32). Cham, Switzerland: Springer International Publishing.

Frith, A. (n.d.) Interactive dot map of South Africa based on Census 2011 by Statistics South Africa. Retrieved on 20th May 2017, from: https://dotmap.adrianfrith.com/

Future Cape Town. (2018). *Philippi Horticultural Area.* Retrieved 4 January 2018, from: http://futurecapetown.com/philippe-horticulture-area/#.WniC1ainHIU

Gallaher, C. M., Kerr, J. M., Njenga, M., Karanja, N. K., & WinklerPrins, A. M. (2013). Urban agriculture, social capital, and food security in the Kibera slums of Nairobi, Kenya. In *Agriculture and Human Values*, 30(3), p. 389-404.

Glover, T. D. (2003). The story of the Queen Anne Memorial Garden: Resisting a dominant cultural narrative. *Journal of Leisure Research*, 35(2), p. 190.

Hamilton, A. J., Burry, K., Mok, H. F., Barker, S. F., Grove, J. R., & Williamson, V. G. (2014). Give peas a chance? Urban agriculture in developing countries. A review. *Agronomy for sustainable development*, *34* (1), 45-73.

Harvey, D. (1973). 1973: Social justice and the city. London, Edward Arnold.

Haysom, G., & Battersby, J. (2016). Urban agriculture-the answer to Africa's food crisis? In *Quest*, 12(2), p. 8-9.

Kay, D. (2007). South Africa City Planning: A Study in Post-1994 National Planning Legislation and the Local Planning Context within the Buffalo City Municipality.

Klaver, R. A. (2017). *Empowering vegetables: Urban Agriculture as a Social Movement? Field research on urban food production in Cape Town, South Africa*. Unpublished Thesis for Master in Global Development. Under supervision of C. P. Hansen. University of Copenhagen: Faculty of Social Sciences.

Krantz L (2001) *The sustainable livelihood approach to poverty reduction*. Swedish International Development Cooperation Agency.

Lee-Smith, D. (2010). Cities feeding people: an update on urban agriculture in equatorial Africa. *Environment and Urbanization*, *22*(2), 483-499.

Martin, A., Oudwater, N., & Meadows, K. (2000). *Urban agriculture and the livelihoods of the poor in Southern Africa: case studies from Cape Town and Pretoria, South Africa and Harare, Zimbabwe*. [Working Paper]. Retrieved on 1st November 2017, from: http://gala.gre.ac.uk/11623/1/11623_Martin_Urban%20agriculture%20and%20the%20liveli hoods%20%28working%20paper%29%202000.pdf

Maslow, A. H., Frager, R., & Fadiman, J. (1970). *Motivation and personality* (Vol. 2, pp. 1887-1904). New York: Harper & Row.

McClintock, N. (2010). Why farm the city? Theorizing urban agriculture through a lens of metabolic rift. In *Cambridge Journal Of Regions, Economy And Society,* 3(2), p. 191-207.

McLeod, S. A. (2017). Maslow's hierarchy of needs. Retrieved 30 September 2017, from www.simplypsychology.org/maslow.html

Mkwambisi, D. D., Fraser, E. D., & Dougill, A. J. (2011). Urban agriculture and poverty reduction: evaluating how food production in cities contributes to food security, employment and income in Malawi. In *Journal of International Development*, 23(2), p. 181-203.

Mok, H. F., Williamson, V. G., Grove, J. R., Burry, K., Barker, S. F., & Hamilton, A. J. (2014). Strawberry fields forever? Urban agriculture in developed countries: a review. In *Agronomy for sustainable development*, 34(1), p. 21-43.

Mougeot, L. J. (Ed.). (2010). *Agropolis: The Social, Political and Environmental Dimensions of Urban Agriculture.* Ottawa, Canada: IDRC Publishers.

Massey, R. (2015). Africa's Urban Revolution. In *Urban Forum*, Vol. 26 (1), p. 95–96.

Nell, E. J. (1975). *Rational economic man*. Cambridge University Press.

Nugent, R. (2000). The impact of urban agriculture on the household and local economies. In *Bakker N., Dubbeling M., Gündel S., Sabel-Koshella U., de Zeeuw H. (2000) Growing cities, growing food. Urban agriculture on the policy agenda. Feldafing, Germany: Zentralstelle für Ernährung und Landwirtschaft (ZEL)*: p. 67-95. Retrieved on 22nd May 2017, from: http://www.ruaf.org/sites/default/files/Theme3_1_1.PDF).

Olivier, D., & Heinecken, L. (2017). Beyond food security: women's experiences of urban agriculture in Cape Town*. In *Agriculture And Human Values*, 34(3), p. 743-755.

Olivier, D. W., & Heinecken, L. (2017). The personal and social benefits of urban agriculture experienced by cultivators on the Cape Flats. In *Development Southern Africa*, 34(2), p. 168-181.

OpenStreetMap. (2017) *OpenStreetMap Foundation*. Retrieved on 1st December 2017, from http://www.openstreetmap.org

Oranjezicht City Farm. (2017). [*No title*]*.* Picture of Oranjezicht Farm on front page. Retrieved from Website Oranjezicht City Farm Gallery. Retrieved on 8th November 2017, from: http://www.ozcf.co.za/gallery/).

Oranjezicht City Farm. (2017). *History of Oranjezicht City Farm*. Retrieved on 12th December 2017, from: http://www.ozcf.co.za/about/history/.

Oranjezecht City Farm. (2015). Annual Financial Statements. Retrieved on 20th January 2018, from: http://www.ozcf.co.za/wp-content/uploads/2015/01/OZCF-AFS-2015.pdf

Orsini, F., Kahane, R., Nono-Womdim, R., & Gianquinto, G. (2013). Urban Agriculture in the developing world: a review. In *Agronomy for sustainable development*, 33(4), p. 695-720.

Peet, R., & Hartwick, E. (2015). *Theories of development*. New York: The Guilford Press.

Pudup, M. (2008). It takes a garden: Cultivating citizen-subjects in organized garden projects. In *Geoforum*, 39(3), p. 228-1240.

Scheyvens, R. (2014). *Development fieldwork*. Los Angeles: SAGE Publications.

Schwartz, H. M. (2009). *States versus markets: the emergence of a global economy*. London (UK): Palgrave Macmillan.

Scoones, I. (2009). Livelihoods perspectives and rural development. *The Journal of Peasant Studies*, 36(1), 171-196

Sen, A. (1999) *Development as a freedom*. Oxford, United Kingdom: Oxford University Press

Solesbury, W. (2003). *Sustainable livelihoods: A case study of the evolution of DFID policy*. London: Overseas Development Institute.

uMap. (2017). *OpenStreetMap Project*. Retrieved on 1st December 2017, from: http://umap.openstreetmap.fr/en/map/new/.

United Nations Development Programme (UNDP) (1996). *Urban Agriculture – Food, Jobs and Sustainability Cities*. New York: United Nations Development Programme Publication Series for Habitat II, Volume One.

Wahba, M., & Bridwell, L. (1976). Maslow reconsidered: A review of research on the need hierarchy theory. *Organizational Behavior And Human Performance*, 15(2), 212-240.

WinklerPrins, A. M. (Ed.). (2017). *Global Urban Agriculture: Convergence of theory and practice between North and South*. Boston: CABI.

Western Cape Government Provincial Treasury (2014). *Socio-economic Profile City of Cape Town.* Working Paper. Cape Town: Western Cape Government Treasury.
Retrieved on May 22nd 2017, from: https://www.westerncape.gov.za/assets/departments/treasury/Documents/Socio-economic-profiles/2014/dc00_city_of_cape_town_seplg_2014_f.pdf)

Zanden, J. van (2012). In Good Company: About Agency and Economic Development in Global Perspective. In *Economic History of Developing Regions*, 27(1), p. 16-27.

Zezza, A., & Tasciotti, L. (2010). Urban agriculture, poverty, and food security: empirical evidence from a sample of developing countries. In *Food policy*. Vol. 35(4): p. 265-273

9. Appendix

Appendix 1

APPENDICES TO PROPOSAL

Interview guide: Version 1

During interview: 2 interviewers – 1 taking notes, the other mainly leading the conversation. The interviewers will introduce themselves and explain the purpose of their research. The different sections will also be quickly mentioned to give the respondent some sense of structure. Anecdotes/examples can be useful to illustrate answers, so if necessary using follow-up questions is recommended . This is also useful to understand better what a respondent means, using follow-up questions to clarify. Note for reading the questions: often UA work/activities are mentioned, which seems rather general/unspecific, but this is to be broad as respondents will be involved in different aspects and these terms will be replaced by the actual activity (or activities) the particular respondent is involved in.

Section A: Demographic background

Goals: to set a comfortable setting/break the ice + to get to know respondent and background. This will be done talking it over and then filling out a pre-set form/fact sheet (structured).

1. Age
2. Gender
3. Mother tongue
4. Occupation
5. Level of education
6. Determine income level based on 4 + 5 and own perception
7. Family background + current family life (single/married/children/etc.)
8. Geographical setting: living + working space
9. If applicable: which UA organisation?

Section B: Involvement in UA

Goal: to understand the factual/more objective side of the UA involvement of the respondent. To be recorded and transcribed + then analysed according to set analysis scheme (semi-structured).

10. For how long have you been involved in UA?
11. In which way have you been involved? / What are you responsible for? Is this more organisational/involved with cultivation/educational/etc.?
12. Have your responsibilities changed over time?

13.   Why/How did you become involved? Were there any particular reasons you became involved?

14.   Why/How did you remain involved? Were there any particular reasons you remained involved?

15.   Are you involved in any promotion of UA or the organisation? If so, who to /what do you do/why do you do it?

Section C: Positives

Goal: to understand the value and use that UA has for the respondent. To be recorded and transcribed + then analysed according to set analysis scheme. Important to note is that as people with different roles in different organisations are interviewed, the questions here are dependent on answers in sections A + B.

16.   Do you enjoy your work/contribution to UA?

17.   Can you recall any positive memories of your work/contribution/related to UA?

18.   What are purposes for you to participate in UA?

19.   What is the main purpose for you to participate in UA?

20.   How do you feel when you are doing UA?

Section D: Negatives

Goal: to understand the negative sides that UA has for the respondent. To be recorded and transcribed + then analysed according to set analysis scheme. Important to note is that as people with different roles in different organisations are interviewed, the questions here are dependent on answers in sections A + B (+ C).

21.   Are there any parts of your UA work/contribution that you would like to see changed?

22.   Are there parts of your work/contribution to UA that you do not enjoy?

23.   Can you recall any negative memories of your work/contribution/related to UA?

24.   Is there anything you feel that could be achieved through UA which is currently not the case?

25.   How do you feel when you are doing UA?

Section E: Concluding remarks

Goal: to check with the respondent if there are any things to add. To be recorded and transcribed + then analysed according to set analysis scheme. Important to note is that as people with different roles in different organisations are interviewed, the questions here are dependent on answers in sections A + B (+ C + D).

26.   Is there anything you would like to add to what we have discussed so far?

27.   Are there any questions from your side?

28.   Would you be interested in our research results?

Appendix 2

INTERVIEW 2 (OZCF)

Respondent: Farmer coordinator

Points of interest:
- Individual fulfilment and communal fulfilment from UA
- Government support: interesting as it is supposed to be this rich part of the city + they seemed to have gotten quite a lot of money/good cooperation with government institutions?
- The Zimbabwean guys' situation in the farm (legality + their backgrounds)
- Strong promotion of OZCF, but among people of a particular background (mostly privileged)
- The educational aspect is mentioned, but not as strongly as other aspects

00m 00s
(Explanation Interview set-up first)
00m 58s
Background
Jo
60 years old
Female
South African, born and bred in Cape Town, always lived in Cape Town/Western Cape, not always in the city.
Oranjezicht is voluntary basis
Speaks Afrikaans & English & little Dutch

01m 45s
Educational background: high school teacher in biology, various things after retiring from this; retail oil industry, taught foreigners to speak English, helped to train South Africans to teach English abroad, worked also in shipping industry. Started working for Oranjezicht after retirement, as being at home was difficult.

02m 45s
But I found being at home extremely difficult and, you know, after a while the novelty wears off, no matter how nice you make your days And it really stems from a profound need to, I wanted to make a difference in my community. *Do you live in Oranjezicht?* I live in Gardens, which is still near. So, you know, I always felt that people very often, people who live in the city, there is not a great sense of neighbourliness, people don't know each other, because they live behind high walls. *From that you wanted to go into something else?* Something, which was a bit more community centred, and where people could come to a place that they felt belonged to them. I mean it is a totally unique situation and certainly in the days when we had our market on, in this park next door. *Now you have it at the Waterfront?* Yeah, but when the market was here, people used to come here, from behind their high walls, and have a cup of coffee, meet their neighbours, chat, it was beautiful and in a way, that has been eroded a little bit, because of the move of the market.

4m 11s
But I am working very hard on bringing it back. *So for you it's really about the community?* Yes, you know, I think there is richness in, in what we can share as people, and especially as the majority of people here are very privileged, they've traveled, they're professionals, many of them, so they have a lot to give, and a lot to share, and I think that's what life's about, you know.

4m 49s
That's a very nice way to put it. Have you worked with any other organisations than Oranjezicht? I did use to do a little bit of voluntary work at one of the local old-age homes, but I found that quite depressing. And this for me is uplifting as well as.. So I started as a volunteer. *A bit like us, like with the children, or...?* Funnily enough, I, you know, having an educational background, I thought that is where

I would make, would be able to make a contribution, but I actually found that it was really working in the soil, that was, that gave me great joy.

5m 38s
So, as I say, I volunteered here for about 2 and a bit years. *So how long ago is that? When you first started?* This was in, I joined the project in April 2013. So it's 4 and a bit years now, and, um. Yeah, we really got this garden going and then of course it's a funny thing, about projects like this, that, when they start to florish, when they start to florish and take off, it becomes very difficult to continue to rely completely on voluntary generosity. We need, you know, there are things that need to be done in the garden and it's veru difficult to demand of volunteers that they come and give off their time and their labour. Particularly if you can't really reward them.

6m 50s
And so, that of course, is really where the whole realisation of us needing an income stream came from. So we, that's really how this market was born, and.. *So that you can generate the income through the market?* Yes, and so we were able to create, we actually got 3 fulltime farmers. *So Tendai, Thomas..* Tendai, Thomas and Mark is our farmer in charge, but he currently, he is seconded to a sister project. *Oh, yes, you said in the email, that he is doing something else..* Yes. And, then of course, I am paid now. *As a farmer, as the coordinator?* As a farmer manager. *Because you're then one of the only people who gets paid, I think, within Oranjezicht, right?*
(Short discussion of paid members OZCF/whether it is the board)

7m 47s
Kurt is paid, I'm paid, and our farmers are paid. *So it's a very small part of the organisation that's paid?* Yeah. *That is in line with the idea of the community feeling, that you already get that out of it.. Though I can imagine it is also nice to be paid for your time.* It is, you know, the scope of the work is so much more, than one could expect from a volunteer.

8m 19s
Can you describe a bit, what it is you do? So, there is quite a big admin role to this position. So you know, I work at home quite a lot, dealing with emails, and, and queries, people often want to know where they can find certain things and that's also part of our ethos, you know. So there is the admin aspect. Then of course, I am in, deal with the farmers on a daily basis, you know, we do our planning together. *So you also plan for the crops you mean then?* Yes. *And also what their plans are?* Exactly. So there is that, working with the team. And then, the truth is that farming here is, is actually not easy, because logistically we are quite far away, from the sources of the things that we need. So I, you know, things like manure, seeds, seedlings, farming equipment, we got to go and source that stuff and it's usually you know, it involves a half an hour's drive. So I am on the road a lot.

9m 44s
So you also do the sales basically, of all that, the manure, the seedlings, and stuff like that? What isn't produced by the garden itself.. Yeah, see we're not allowed to keep livestock here, so we have to go and source manure elsewhere. *Would you if you could, if you could have livestock here?* Look, it's definitely part of the sustainability of, of a farm, you know, so you basically you take, you take your waste, your raw materials, and you make, as we do, we use it in our compost production. So you keep putting back and you keep that cycle going, yeah.

Appendix 3
List of Participants

Sources

- Internals
- Externals
- Memos
- Framework Matrices

| Look for | ▼ | Search In | ▼ | Internals | Find Now | Clear | Advanced Find |

Internals

Name	▽	Nodes	References	Created On	Created By	Modified On
OZCF 5 - adminstrator		12	25	13/11/2017 12:27	WBG	14/11/2017 20:36
OZCF 4 - Admin		10	25	13/11/2017 12:27	WBG	14/11/2017 12:25
OZCF 3 - Volunteer		8	23	13/11/2017 12:27	WBG	14/11/2017 10:16
OZCF 2 - Farmers		12	32	13/11/2017 12:27	WBG	14/11/2017 09:58
OZCF 1 - Farmers		12	22	13/11/2017 12:27	WBG	14/11/2017 09:39
Interview 2 (Abalimi)		23	31	28/11/2017 11:25	WBG	11/12/2017 00:34
Garden Center Interview Nyanga		8	11	24/11/2017 21:28	WBG	24/11/2017 21:28
ERF 81 - Group interview		13	47	20/11/2017 19:30	WBG	20/11/2017 19:30
(5) Somako Food Garden – Guguletu		5	5	24/11/2017 21:28	WBG	24/11/2017 21:28
(5) Sinoxolo Thembelihle		5	5	29/11/2017 16:09	WBG	29/11/2017 16:09
(4) Sinethemba		1	1	29/11/2017 16:09	WBG	29/11/2017 16:09
(4) Nonkululeko Project – Guguletu		7	13	24/11/2017 21:28	WBG	24/11/2017 21:28
(3) Scaga 2		4	4	29/11/2017 16:09	WBG	29/11/2017 16:09
(3) Nonkululeko Project – Guguletu		8	13	24/11/2017 21:28	WBG	24/11/2017 21:28
(2) Scaga 4		6	6	29/11/2017 14:33	WBG	29/11/2017 14:33
(2) Masincedane Project – Fezeka Municipality		4	4	24/11/2017 21:28	WBG	24/11/2017 21:28
(1) Siyazakha Primary School – Project name Masibambane		2	2	24/11/2017 21:28	WBG	24/11/2017 21:28
(1) Esamesakho at Impenouco Primary		5	5	29/11/2017 16:09	WBG	29/11/2017 16:09

- Sources
- Nodes
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- Reports
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