Social dynamics and sustainability in three community garden projects in the City of Johannesburg

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ABSTRACT

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MPhil Master's full thesis, the Institute for Poverty, Land and Agrarian Studies (PLAAS), Faculty of Economic and Management Science, University of the Western Cape

This Master's thesis explores the social dynamics of three urban and peri-urban agriculture (UPA) community projects in the City of Johannesburg (COJ), Gauteng. It explores how these projects originated, are organised and supported, while describing how these factors impact on their sustainability and on the livelihoods of the people who work within them. Sayer's (1984) combined, extensive and intensive research design was adopted and utilised participant observation methods, key informant interviews, literature reviews, and surveys to gather data. A political economy framework was used to situate this data.

The thesis argues that in Johannesburg, UPA has an important role to play as a livelihood strategy for city residents. Urban food production is typically one of many livelihood strategies that the urban poor pursue to survive in the city. Support offered to UPA needs to consider these dynamics and aim to provide the necessary space and assistance to facilitate such varied livelihood activities. I argue that the current co-operative model that is being promoted for UPA community projects is not suitable within this multiple livelihood context and that a reconceptualization of the model should be considered that incorporates an allotment approach. An allotment model, appropriately tailored to each individual context, could enable multiple-livelihood strategies to flourish.

The thesis also contends that informal food networks are important food distribution mechanisms within the South African urban context and that local food producers should be supported in their efforts to supply to them. I argue that an allotment model would support informal food networks which could ultimately foster various niche market sectors.

Ultimately, I argue for a better conceived support structure for UPA community projects that is less prescriptive, more facilitative, and bases its support and development solely in participatory

decision-making and community engagement. Successful and sustainable agricultural projects in urban and peri-urban areas will be key components in ensuring food security in Africa in the future.

DECLARATION

I declare that 'Social dynamics and sustainability in three community garden projects in the City of Johannesburg' is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Marc Lewis

24 May 2013

Signed: . . . . . .

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Contents

ACRONYMS

AFSUN - African Food Security Urban Network

AGM - annual general meeting

CASP - Comprehensive Agriculture Support Programme

CIS – Cooperatives Incentive Scheme

COPAC - Co-operative and Policy Alternative Center

CPF - Community Policing Forum

CSA – community supported agriculture

CSI - corporate social investment

CWP – Community Work Programme

DAFF – Department: Agriculture, Forestry and Fisheries

DOA - Department of Agriculture

DOE - Department of Education

DPW - Department of Public Works

DTI – Department: Trade and Industry

FAO - Food and Agriculture Organization of the United Nations

FTFA – Food and Trees for Africa

GADS - Gauteng Agricultural Development Strategy

GDARD - Gauteng Department of Agriculture and Rural Development

GDP – gross domestic product

GEP – Gauteng Entrepreneurial Propeller

GPG - Gauteng Provincial Government

GSSC - Gauteng Shared Service Centre's

HACCP - Hazard analysis and critical control points

IFOAM – International Federation of Organic Movements

JFPM – Johannesburg Fresh Produce Market

LRAD - Land Redistribution for Agricultural Development Program

NGO – Non-governmental Organisation

NPO – Non-profit Organisation

NSNP - National School Nutrition Programme

PGS – Participatory Guarantee Systems

PLAAS - Institute for Poverty Land and Agrarian Studies

SABS - South African Bureau of Standards

SAOSO - South African Organic Sector Organisation

SARS – South African Revenue Service

SMMEs - Small, Medium and Micro-sized Enterprises

UA – urban agriculture

UPA - urban and peri-urban agriculture

Chapter One: Introduction

Popular culture, academic literature, and the international development community increasingly promotes the development of alternative and innovative solutions to climate change, poverty alleviation and food provision, for both the so-called developed and developing worlds. Urban and peri-urban agriculture (UPA) is often heralded as one of these solutions, a type of "magic bullet" that would provide income, food, and, simultaneously, a reduction in the negative impact that industrial large-scale agriculture has on the environment. The benefits this new development strategy claims include closer proximity to urban populations to reduce transportation costs and pollution, more agricultural job opportunities for less skilled urban labour; and accessibility to local sources of food for urban residents, thereby increasing food security within cities and outlying residential spaces.

The simultaneous increase in demand for organic and ethically produced food products by middle-class consumers provides a new business opportunity for UPA that could provide some of these potential benefits. The logical development path would thus be toencourage and organise urban and peri-urban producers to take advantage of this new and lucrative market, thereby meeting the supply urban consumers' demand, creating new markets, reducing some of the environmental impact of agriculture, providing job opportunities, and reducing poverty. It is arguable that government would be best situated to direct this groundswell, and to provide the basic support that producers would need to access these markets, and, in so doing, provide affordable food for some of its citizens.

This thesis tests some of the claims set out above and aims to illustrate some of the pitfalls and successes of urban agriculture in one of Africa's biggest cities – Johannesburg, South Africa. It sets out the debates on UPA, while placing it against the greater context of food production in the developing world, the political economy of agriculture in Africa, and the rural-urban divide. This it does by describing three case studies and providing an analysis of the complex dynamics that govern urban food production in post-apartheid South Africa.

This chapter follows the following framework: it describes the background to the research project, the policy context, and my motivation for choosing the topic. I highlight my specific

research questions by describing the aims and objectives of my study and then providing an outline of the scope of the study and an explanation of key concepts. The chapter briefly concludes with an outline of the thesis to situate the reader in relation to the document as a whole.

1.1 Background and policy context

With the lifting of racist laws and systems of controlling the mobility of black South Africans, post-Apartheid South Africa has seen a large influx of people into the metropolitan areas (Rogerson, 1996:167). This increase has resulted in heavy pressure on housing and on city landscapes. Informal settlements, known colloquially as 'locations' or 'townships', surround South African cities and are home to people seeking wage incomes to feed and school their families who live either with them in these 'locations' or who are back in the 'rural' areas living with their extended families. In some instances, 'locations' lack basic infrastructure, adequate sewerage or refuge systems and are often prone to water borne diseases and contaminations.

Of the nine provinces in South Africa, Gauteng comprises the smallest land area - approximately 1.4 % of the country, but in 2011 contributed the most to the country's gross domestic product (GDP), at approximately 35.6 % (GPG, 2012:19). Johannesburg, the so-called 'City of Gold', is the main contributor to this economic activity and wealth and attracts people from all over Africa who seek work opportunities, ultimately aimed at improving their livelihoods and economic standing. Many do not find formal employment and have to follow informal livelihood strategies that are not very secure. Food insecurity is high amongst the poor and many seek support from welfare organisations, Non-Governmental Organisations (NGOs), and from the City of Johannesburg (COJ) through their Human Development programme where food parcels or meals are provided through various city outlets (for example from churches, municipal offices, and city parks). Some of the urban poor take part in the development programmes initiated by these organisations in exchange for food and potential income incentives, but this is not always possible. For South African citizens social support can be accessed through South Africa's grant system that has had noticeable impacts on "lowering poverty levels" (Greenberg, 2010:30). However, these interventions are mostly "welfarist in orientation" (ibid) and tend to leave the economic and social systems that generate poverty and inequality largely untouched.

South Africa, and Johannesburg in particular, continue to face challenges of food insecurity, poverty, high levels of inequality and environmental degradation. South Africa is regarded as one of the world's most unequal societies (UN-HABITAT, 2010) and approximately 36.5 % of the population are unemployed (SASurvey, 2011:219) and struggle to feed themselves. On the other end of the spectrum, middle-class consumers demand high quality commodities such as organic and ethically produced and sourced products, including free-range milk and eggs, pasture-reared beef and organic vegetables.

A study on urban poverty in Cape Town conducted by the School of Public Health and the Programme for Land and Agrarian Studies[1] in 2002 in the townships of Khayelitsha and Nyanga stated that "THE MOST EXTREME expression of poverty is hunger, since the most basic bodily needs are not met" (de Swardt et al., 2005:107) (original emphasis). In this context the likelihood that households could secure food (including through loans and debt) was greatly increased where higher educational levels or access to permanent salaries were available (ibid). A suburban household needed cash in hand to provide for their daily food requirements.

When a household does not have cash to purchase cheap food (or food in general) they make use of alternative mechanisms that include "social security and informal social networks (safety nets)" (Frayne et al. , 2009:26). Inclusive of income, these are considered the main determinants of food security in South African cities (ibid).

Other government strategies to alleviate food insecurity include their support for community and school community garden development. The Department of Education (DOE)[2] initiated the National School Nutrition Programme (NSNP) that provides students with one meal per day that is considered to be of high nutritional value. One of the programme's explicit objectives was that each school would be "expected to initiate a food garden or food production project" (DOE, 2009:8), the produce of which was intended to supplement the staples provided by the feeding scheme. Yet, an assessment of the programme in 2008 showed that the food garden aspects of the NSNP in some provinces were not successful, and were indeed "dysfunctional" (PSC, 2008).

[1] Former name of PLAAS, now known as the Institute for Poverty, Land and Agrarian Studies.
[2] The Department of Education was later split into the Department of Basic Education and the Department of Higher Education and Training.

There are various government documents that refer to food security and agriculture in South Africa. In this section I provide a brief review of the Department of Agriculture's (DOA) 2002 Integrated Food Security Strategy, the 2006 Gauteng Agricultural Development Strategy (GADS), various agricultural standards that impact on smallholder producers, the COJ's urban agricultural agenda (referring to the City of Cape Town's Urban agricultural policy), and the place co-operatives take in agricultural development strategies.

The DOA's 2002 Integrated Food Security Strategy states its vision as the attainment of "…universal physical, social and economic access to sufficient, safe and nutritious food by all South Africans at all times to meet their dietary and food preferences for an active and healthy life" (DOA, 2002:6). The strategy's goal was "to eradicate hunger, malnutrition and food insecurity" by 2015 through the implementation of the following strategic objectives:

a) *"Increase household food production and trading;*
b) *Improve income generation and job creation opportunities;*
c) *Improve nutrition and food safety;*
d) *Increase safety nets and food emergency management systems;*
e) *Improve analysis and information management system;*
f) *Provide capacity building;*
g) *Hold stakeholder dialogue"* (ibid).

Koch (2011) provides the most recent interpretation of the strategy through a description of the first four of these objectives (that she calls pillars) and indicates the government involvement through their various development programmes.

The first pillar of household food production and trading is supported through the Comprehensive Agriculture Support Programme (CASP) that "aims to provide post-settlement support to the targeted beneficiaries of land reform, and to other producers who have acquired land through private means and are engaged in value-adding enterprises for the domestic or export markets" (ibid:6). The programme is said to benefit "the hungry, subsistence and household-food producers, farmers and agricultural macro-systems in the consumer environment" (ibid).

The second pillar of income generation and job creation has as its key policy actions: "access to credit, skills and training, local economic development, public works programmes, strengthening market systems with information and infrastructure, and livelihood diversification, including off-farm income generation" (ibid). The main programme to support these actions is the Expanded Public Works Programme (EPWP) that in April 2009 had created approximately 600,000 work opportunities in 16,869 projects at an average daily wage of R64 (ibid:7).[3] Agricultural work opportunities were mostly under CASP - 134 projects and 4,807 work opportunities (ibid).

The third pillar of improved nutrition and food safety is dealt with mainly through the NSNP that aims to provide students with well-balanced meals in order to improve their concentration and performance levels and ultimately positively influence their learning process (ibid:8). By March 2009 the NSNP, on a daily basis and during school terms, supported an estimated 5.6 million students in approximately 18,000 schools (ibid). In addition to this there were 6,503 food gardens in schools (ibid) some of which were contributing to these feeding schemes.

The fourth pillar that Koch (2011) describes is safety nets and food emergency management systems. This component of the strategy is covered by the national comprehensive social protection programme that in 2010/11 had a budget of approximately R85.68 billion (ibid). The programmes two main objectives are: i.) "to immediately reduce poverty among groups who are not expected to participate fully in the labour market, and therefore vulnerable to low income: the elderly, those with disabilities, and children"; and ii) "to increase investment in health, education and nutrition, so as to increase economic growth and development" (Samson et al. , 2006:1). These objectives follow on from Government's 1997 White Paper on Social Development, which states that "a social security system is essential for healthy economic development, particularly in a rapidly changing economy, and will contribute actively to the development process. It is important for immediate alleviation of poverty and is a mechanism for active redistribution" (DSD, 1997).

There are five major social security grants in South Africa: the State Old Age Pension, the Disability Grant, the Child Support Grant, the Foster Child Grant and the Care Dependency

[3] The currency used in the Koch report, 'The food security policy context in South Africa', was expressed in US Dollars and where it was converted to South African Rands, in the report and in this Thesis, an exchange rate of R7.14 was used (Koch 2011:45).

Grant and that in 2004/05 total spending on these grants represented 10.2% of total government spending, and 3.1% of GDP (Samson et al., 2006:1).

The GADS (2006:35) refers to an Implementation Plan for what they term the "Second Economy farmers." What the strategy proposes is the following: "Identified black farmers need to be taken through the following stages…:

1. *The farmer needs to obtain land through purchase or lease.*
2. *Loan financing should be made accessible to the farmer, capital as well as bridging.*
3. *The farmer should consider the recapitalisation of on-farm infrastructure either through loan or grant financing, depending on the type of commodity which will be farmed.*
4. *The farmer must undertake training and skills enhancement.*
5. *The on-farm production must be linked to markets.*
6. *The farmer must have access to information at regular intervals through extension services, technology (cellphones, internet etc), study groups, radio, television or printed media.*
7. *The farmer must have access to the latest technological advances through research and extension services."* (GADS, 2006)

While this strategy appears to be well intentioned, Greenberg (2010:16) warns that "State-run extension services are very thin on the ground, and staff are poorly trained" and "those who can afford extension services have a strong and accountable service (driven by money), and those who cannot afford it have no service or a very poor public service".

A lack of support for farmers is evident and often proves detrimental to resource poor farmers. Another pressure on farmers (though mostly justifiable) is the regulatory requirements that need to be complied with when wanting to sell products to formal markets. All producers are required to demonstrate their compliance with the Hazard Analysis and Critical Control Point (HACCP) Food Safety Management System that requires that primary producers and processors assess their operations according to the following seven principles:

- "*Analyze hazards - Potential hazards associated with a food and the measures required to control those hazards are identified and include biological, chemical and physical contaminants.*

- *Identify critical control points - These are points in a food's production at which potential hazards can be controlled or eliminated.*
- *Establish preventive measures with critical limits for each control point - These are minimum standards required for the safe preparation of food.*
- *Establish procedures to monitor the critical control points - Such procedures include determining how and by whom processing standards are to be monitored.*
- *Establish corrective actions to be taken when monitoring has shown that a critical limit has not been met - Either reprocessing or disposal of foods if minimum processing standards has not been met.*
- *Establish procedures to verify that the system is working properly - Testing and calibrating equipment to ensure its proper functioning is but one typical requirement.*
- *Establish effective record keeping in order to document the HACCP system - This would include records of hazards and their control methods, monitoring of safety requirements and corrective actions taken to either prevent problems or how non-conformances are to be prevented from recurring."*[4]

Compliance with these standards provides some guarantee for retailers that produce has been handled correctly and that it is safe for human consumption. It requires that producers keep proper record of their operations and that regular assessment processes are conducted.

On the 18th August 2010 the Executive Officer of the Agricultural Product Standards Act, 1990 (Act no. 119 of 1990) under the jurisdiction of the Department of Agriculture, Forestry and Fisheries sent a letter (REF NO: 21/4/1 Vegetables) to "ALL PRODUCERS, MARKET AGENTS, WHOLESALERS, MARKET MASTERS TRADERS, RETAILERS AND IMPORTERS OF FRESH VEGETABLES" noting a "general culture of non-compliance by both the producers, packers, sellers and retailers with Regulations Relating to the Grading, Packing and Marking of Fresh Vegetables intended for Sale in the Republic of South Africa throughout the national fresh produce markets and some retailers" (*Appendix I*). The Regulations came into effect on the "13th February 2009 through Government Gazette no. 31828 which implied that due compliance by the fresh vegetable industry was immediately expected" (ibid). This government

[4] See South African Bureau of Standards (SABS) certification criteria https://www.sabs.co.za/index.php?page=certhaccpfs. Accessed: 4th February 2013.

action is evidence of attempts to improve food monitoring systems that make it even more difficult for smallholders to compete with larger more capital intensive operations.

Within the local government context in Johannesburg, and conceivably in an attempt to help farmer groups to better deal with issues of compliance, credit limitations and market access, the Human Development Directorate, since the introduction of the new Co-operatives Act of 2005, has encouraged UPA community projects to register as co-operatives. This insistence could be based on the DTI's stated vision of supporting "…the specific potential of co-operatives, as enterprises and organizations inspired by solidarity, to respond to members' needs and ensure greater black participation in the mainstream economy…" (DTI, 2004:11). One of the core principles of the conceptualisation of the co-operative model in this South African context is that:

> *Members contribute equitably to, and democratically control, the capital of their co-operative. At least part of that capital is usually the common property of the co-operative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their co-operative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the co-operative; and supporting other activities approved by the membership (ibid 9).*

Within this COJ context, particularly where community projects focussed on agricultural development are concerned, the co-operative is considered the most appropriate organisational form that will deal with issues of group ownership, and group control. In reality, however, the difficulties related to group dynamics, management, and control are not easily resolved as will be noted in later chapters.

With respect to specific policy on UA, the City of Cape Town's 2007 Urban Agricultural Policy is the first government document to emphasise the importance of agriculture in urban spaces and its potential impact for the urban poor. The City's stated vision is for "A prosperous and growing urban agricultural sector" (Policy, 2007:2) with strategic goals that include:

- *"To enable the poorest of the poor to utilize urban agriculture as an element of their survival strategy (household food security)*

- *To enable people to create commercially sustainable economic opportunities through urban agriculture (jobs and income)*
- *To enable previously disadvantaged people to participate in the land redistribution for agricultural development programme (redress imbalances)*
- *To facilitate human resources development (technical, business and social skills training)"* (ibid).

To attain these goals the City has proposed that urban agriculture is included "as a multifunctional component in municipal land planning and standard development processes concerning land use and environmental protection, i.e. land use plans, zoning schemes and site development plans should provide for urban agricultural activities" (ibid). In addition it proposed that it is integrated into "the programmes of the National Department of Land Affairs, especially with its LRAD Programme" in order to coordinate grant access for individuals to "purchase commercial agricultural land" and for local governments "to acquire commonage land for agricultural activities by previously disadvantaged people" (ibid). Other support avenues include provision of subsidized water for vulnerable groups, a strategy for keeping livestock, the introduction of a support programme for urban agriculture, and the integration of urban agriculture into the commercial agricultural industry (ibid).

In 2010 and 2011 the Human Development Directorate convened meetings to discuss an expansion of agriculture in urban and peri-urban Johannesburg using alternative agricultural methods to create a more food secure city environment.[5] One of the challenges identified was to facilitate "an umbrella structure that could allow small producers to connect with poor consumers and provide them with lower cost, good quality food closer to areas of residence".[6] Region F within the Social Development wing of the Human Development Directorate reported that it coordinates and supports 17 community garden projects with 284 project members. The produce from these gardens was reportedly sold within the informal market sector. The umbrella structure proposed by the Department was to provide further support and coordinate such

[5] AFSUN/Metroag workshop discussions, 25 October 2010.
[6] Presentation to Human Development Mayoral Sub-Committee 12 February 2011. Following on from a workshop on evolving a food security policy for Johannesburg run by African Food Security Urban Network (AFSUN) and involving a range of COJ departments, provincial departments, academics and non-profit organization.

projects and channel their produce toward poor consumers in the city as well as more formal market spaces.

These initiatives constitute local government efforts at increasing the scope of UPA support in the COJ. For these UPA initiatives to become more effective, Webb (2011:206) suggests a two-pronged approach that includes not only Local Government but also National Government, a move that would take the debate from the abstract to serious consideration by local authorities.

Within this framework I have chosen to focus on UPA as one of the mechanisms through which food can be provided to the urban poor, but also for UPA's capacity to provide livelihood opportunities to some of the people living in the city. My interest in this topic partly derives from my concern over the current food system and its dependence on the agro-chemical complex (Weis, 2007). The alternatives, practiced mostly in the international context, like community supported agriculture (CSA) where middle-class neighbourhoods interact with their local farmers, and roof-top gardening, were systems that I believed could be applicable for the South African context, providing viable urban farming opportunities for some of the urban poor.

However, in reviewing the literature, I learnt that such alternatives were not easily transferable to the South African context, and that these urban agricultural models tend to be associated more with middle-class leisure activities than with productive urban farmers growing food for the city. I also ascertained that other forms of urban agriculture were emerging and becoming more popular, such as along the roadsides or in open fields within the boundaries of the city, as well as at school and church community agricultural projects. Roadside agriculture appeared to be a survival strategy without prospects for improvements in productivity and income for selected individuals (mostly because it is unfenced and thus accessible to anyone). The community projects, however, seemed to have the levels of support and infrastructure necessary to facilitate some form of success. My intention was to find community projects where people were not only surviving but where they were making a living, and in addition, where they were impacting positively on the food security of their surrounding communities. I wanted to uncover 'alternative food economies' within the city and through that, investigate who was involved in these economies and whether or not they could engage with and perhaps be incorporated into existing, lucrative, middle-class markets and economies.

1.2 Aims and objectives

The aim of this research project is to critically assess the organisational aspects of UPA community projects in Johannesburg and the social realities of the people working within them.

Objectives include:

- To critically assess the organisation of UPA community projects in Johannesburg, to build a better understanding of the nature of such projects and how their organisation contributes to their failure or success;
- To document the nature of urban livelihood trajectories where UPA is included in the assemblage of strategies;
- To better understand the value of urban agricultural projects for food supply within urban settings; and
- To make recommendations to local government to improve the operational effectiveness of their agricultural support strategies.

1.3 Research questions

The research questions that guided this project are the following:

i. What are the key features of smallholder vegetable production in Johannesburg, in particular in relation to key components of the vegetable value chain (acquiring farming inputs, securing a supply of labour, organizing production, and marketing of produce)?
ii. Which organizational features of these projects facilitate, and which obstruct, their social and economic sustainability? and
iii. What are the long-term prospects of these projects reducing the poverty of poor people in urban and peri-urban areas and sustaining the livelihoods of the small-scale producers who operate them?

1.4 Scope of research

The research design consisted of four phases of study that are consistent with the combined, intensive and extensive approach developed by Sayer (1984) – discussed in more detail in the

chapter that follows. During phase 1 I conducted preliminary intensive fieldwork in which I visited the different sector role players (farms, retailers, and government officials) and attended workshops, meetings and informal gatherings pertaining to these. This helped me to familiarise myself with the sector and to establish a presence. This phase began in April 2010 and ended December 2010, although it continued throughout the research process.

Phase 2 was an extensive phase that comprised of a questionnaire conducted with 55 UPA community project members from four different project sites. This was undertaken over January and February 2011.

Phase 3 was a mapping process that was completed in October 2011. During this phase I attempted to gather information on the types of farming activities that were taking place in Gauteng. I compiled a database of names and drew on this to select the three UPA community projects on which I focussed in phase 4, the intensive phase of the research. This phase consisted of two six-week programmes in which I visited each of the three projects for one day every week.

The research methods used in this intensive phase included informal and formal interviews, and participant observation. During much of the fieldwork to the community projects, I would work in the fields with the project members in an attempt to immerse myself in their daily routines and to deepen my understanding of the nature and dynamics of the work they were involved in.

1.5 Clarification of key concepts

The section below will assist readers to better understand the scope of this study. The concepts will be dealt with more comprehensively in the literature review chapter that follows.

1. *Urban and peri-urban agriculture:* I refer to urban and peri-urban agriculture (UPA) as opposed to just urban agriculture (UA) so as to emphasise the inclusion of the 'urban fringe' within Mougeot's (2000) definition of urban agriculture. Mougeot (2000:10) defines urban agriculture (UA) as "an industry located within [intra-urban] or on the fringe (peri-urban) of a town, a city or a metropolis, which grows or 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." Within the context of this thesis, UA includes the urban fringe.

2. *Organic agriculture:* is an agricultural practice that adheres to the following principles: (a) the principle of health – the practice should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible; (b) the principle of ecology – the practice should be based on living ecological systems and cycles, work with them, emulate them and help sustain them; (c) the principle of fairness – the practice should build on relationships that ensure fairness with regard to the common environment and life opportunities; and (d) the principle of care – the practice should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.[7]
3. *Agroecology:* This concept can best be described as "…new, modified, or adapted practices or techniques that contribute to a more environmentally friendly, ecological, organic or alternative agriculture" (Wezel et al., 2009:9).
4. *Industrial, commercial, and modern agricultures:* these terms are used interchangeably throughout the thesis to refer to what has been labelled the green revolution model of high chemical inputs, and genetically modified organisms (GMOs). I use the terms 'traditional' or 'alternative' when referring to agriculture that is in opposition to the green revolution model.
5. *Farm-gate sales/garden-gate sales:* Sales that are made to pedestrians or to consumers who travel to a farm or garden to purchase produce informally – for example there may be no set price, no receipts given and the customer may barter something else in return.
6. *Local/community food system:* a system where food is sourced locally and where markets and consumers engage with the producers of that food or at least are aware of its source and integrity. Defined by the University of California Sustainable Agriculture Research and Education Program (SAREP) as: "A collaborative effort to build more locally based, self-reliant food economies – one in which sustainable food production, processing, distribution and consumption is integrated to enhance the economic, environmental and social health of a particular place" (Feenstra 2002:100).

[7] (http://www.ifoam.org/about_ifoam/principles/index.html). Accessed: 4th February 2013.

7. *Allotment gardens:* "refer to a collective of garden plots that lie adjacent to each other, effectively subdividing a larger piece of land that is dedicated to gardens. Ideally, an allotment garden is located in the neighbourhood of those who work it" (Bellows, 2004:250).
8. *Food security:* "Food Security exists, at the individual, household, national, regional, and global levels when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for a healthy and active life (FAO_a, 2001). While accepting this as the definition of food security I do take cognisance of concerns raised by Hart (2009) with respect to the temporal and intensity dimensions of food insecurity, an exploration of which lies beyond the scope of this thesis.
9. *Multiple livelihoods:* where an individual relies on diverse activities to secure wellbeing, for example through utilising various income opportunities, exchange value, or social acceptance.
10. *Community:* The use of the word 'community' is very misleading as it tends to assume that the people within a certain group are homogenous. Within this thesis I use the term 'community' loosely to distinguish between how different groups of people are imagined following Anderson's warning that (1991:6): "Communities are to be distinguished, not by their falsity/genuineness, but by the style in which they are imagined."
11. *UPA community project:* The urban and peri-urban agriculture (UPA) community project refers to projects within the city and surrounding areas where groups of people are working within agriculture. These activities could be considered farming or gardening but all have in common that they are producing types of fruit and vegetables with the labour of the collective.
12. *Co-operative:* "A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise" (Philip, 2003:5).

1.6 Significance of the study

This research aims to provide empirical data on the functioning and organisational aspects of UPA community projects within the COJ, and on how these projects impact on the livelihoods of

the people who work within them. The research endeavours to contribute to current debates in South Africa on urban agriculture and on multiple livelihoods and poverty. The recommendations, it is hoped, will help to improve the viability of UPA community projects and to provide better recognition of the needs of urban farmers throughout South Africa.

1.7 Thesis outline

The chapter that follows provides a review of the literature with a focus on urban agriculture, market systems, and alternative agricultures. Chapter Three provides a self-reflective account of my journey through the research process, indicating my conceptual evolution and the development of the methodological process. Chapter Four engages with some of the nuances within Gauteng's agricultural and social spheres and provides a general picture of the region from which to base finding in the later chapters. Chapters Five, Six, and Seven reflect on the realities within three UPA cases with a focus on their production and marketing strategies, their organisational form, and their membership's livelihood strategies. Chapter Eight incorporates these cases with the wider literature, and provides an assessment of the broader significance of the cases within the South African context. Chapter Nine provides concluding remarks, key insights, and recommendations for the private and government sectors for their future engagements within the UPA community development sector.

Chapter Two: Urban and peri-urban agriculture and its organisational forms, market systems, and alternative agricultures

In this chapter I will discuss the wider context of my study through a review of the literature on urban and peri-urban agriculture (UPA), and the organisational forms it has adopted, market systems, and alternative agricultures. This allows me to describe and clarify the key concepts that have informed my research and at the same time provides a theoretical framework within which to situate the findings of the chapters that follow.

Urban and peri-urban agriculture must be understood within the wider context of the transformation of global agro-food systems in recent decades (McMichael, 2009). The corporate food system is driven by uniformity in production (monocultures), economies of scale, cheap fuel inputs, and high levels of technical innovation (machinery and production inputs including agrochemicals and genetically modified organisms). The financial success of this system has been made possible through a historical process of capital accumulation and human exploitation within a free market environment (McMichael, 2009:144). It is also characterised by the inhumane treatment of animals (Singer, 1976, Singer, 2006, Clark, 2006), environmental degradation and genetic manipulations that have contributed to the loss of biodiversity and the extinction of numerous plant and animal species (Thrupp, 2000).

While modern agriculture provides increased yields and productivity (Tilman et al., 2002), these positive attributes are mostly reliant on the sustained use of rapidly changing modern technologies and agro-industrial inputs that require seasonal application. Seed saving is discouraged and its practice suppressed through the introduction of genetic modification. An example often cited is the case of the so-called 'terminator gene', a technology that prevents a plant from producing fertile seed and thereby makes the farmer reliant on seasonal seed purchases (Shiva, 2000). These trends support a large-scale, capital and technology, and input intensive farming model and limits the viability and opportunities for success for under-resourced farmers, most of whom are squeezed out of farming or who continue without any real ability to improve their situation (i.e. because of their limited accumulation capacity). Critics of the current food system argue that agribusiness is driven by profit maximization at the expense of labour, animals and the environment (Roberts, 2009:248).

Another strain on our food system and reason for continued support for large-scale, capital intensive farming comes from the agrofuel complex. Grains used to feed animals and humans are now also used to sustain the demand from the alternative energy sector. One rationale behind capital's adoption of the agrofuel complex is its potential for "reducing or transforming energy-use patterns in ways that can ameliorate environmental concerns without affecting economic growth" (McMichael, 2010:576). Arable land is under intense pressure to meet this demand to the extent that nation states invest in land in other nation states, mostly in the so-called developing world. Some take advantage of the global market system and economically weaker regions in what is termed 'land grabbing'(McMichael, 2010, Borras et al 2011). In South Africa land is being dedicated to agro-fuel commodities in the Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo, and the North West (The African Centre for Biosafety, 2008:26-34) and could pose a threat to the country's food security.

In response to these new global pressures, there have been increasing calls for radical changes to current food systems and models. Alternative food networks have emerged where food reaches the consumer along shortened value chains, often called 'community food systems' (Feenstra, 2002:100). This typically happens through farmers markets and CSA initiatives (Ibid:101) where consumers and farmers connect regularly to improve supply and demand, while keeping costs to a minimum. This movement has been fostered by consumer demand for safe produce (ethically, environmentally, and from a health perspective) and for consumers to familiarise themselves with the production and origins of the food they consume. These systems are characterised by small-scale farmers near cities or towns who access alternative marketing channels and thus expand their local operations and reach. Yet, a number of farmers are unable to benefit from such increased urban demand and "direct food linkages to cities do not necessarily enable them to consistently make a living from season to season" (Jarosz, 2008:232). In the South African context this is intensified through racial, class and spatial inequalities that limit the potential for some African farmers to access middle-class markets.

2.1 Urban agriculture as a component of the global food regime

The term 'urban agriculture' (UA) "was popularized in the 1996 United Nations Habitat conference in Istanbul to describe "...the growing, processing, and distribution of food and other

products through intensive plant cultivation and animal husbandry in and around cities (Butler and Maronek, 2002). Urban agriculture includes production for self-sufficiency, barter, and sale" (Bellows, 2004:250).

Ellis and Sumberg (1998) provide useful observations on UA. They argue that the UA literature is divided into two strands, the first of which focuses on advocacy that has been associated with "ideas of food self-sufficiency in cities at both household and city-wide levels, of poverty reduction addressed solely within urban boundaries, and of futuristic waste recycling systems that maximise city food output in an ecologically friendly and sustainable way" (ibid:213). The second strand relates to "the empirical investigation of the incidence of urban food production…with an emphasis on the descriptive verification of its significance for household welfare among those participating in this activity" (ibid).

Ellis and Sumberg (ibid) remark that these two strands often fail to take proper cognisance of the importance of the "rural-urban interactions in determining the access to food and welfare of the urban poor". The authors make the point that when considering the significance of UA to the livelihoods of the urban poor, these rural-urban networks need to be considered. It includes how urban-rural familial networks are maintained, how split families prevail where family members take up different occupations in diverse locations, the prevalence of circular migration, and the "tendency for even long-established urban households to keep a foothold in village society" (ibid:217). These links provide some level of security for urban residents in their ability to call on rural networks for food and welfare resources in times of need. Similarly, economic links are fostered where resources are channelled between the city and the country (for example through remittances) and vice versa, for the benefit of both parties (noting that how each party benefits is not always equal – in fact, this interaction can sometimes be more unfairly weighted to one party, even where family relations are considered).

In line with Ellis and Sumberg's (1998) characterisation of the first strand of UA literature - the advocacy component - Mougeot (2000) suggests that UA complements rural and foreign sources of food supply to cities. Zezza and Tasciotti (2010:268) state that it plays "an important role for a non-negligible number of poor households in the developing world". In addition it has been promoted as a climate-friendly alternative to the current corporate food regime (Smit et al., 1996:9) given its ability to reduce the food miles that produce has to travel to reach urban

consumers (FAO_b, 2007:51). In South Africa at present there is a strong drive toward more sustainable cities (within the 'Green Economy' rhetoric) and within these, sustainable human settlements (GPDED, 2010:6). The latter is characterised by the re-use and recycling of settlement waste such as grey and black water, food wastes into the localised system (for example compost production etc.)[8] (see Mougeot 2000 for international literature, Smit and Nasr, 1992).

Reductionist economics of location would suggest a decrease in transportation costs for farms that are closer to the urban marketplace, and an increase in land rental costs. "These price relationships mean that high value, high transport cost, commodities tend to be produced close to urban centers, and low value, low transport cost, commodities tend to be further away" (Ellis and Sumberg, 1998:218). While this perhaps simplistic understanding of location has many variants, the basic principle is applicable and one finds more vegetable, chicken and egg production operations on the outskirts of cities (all involving high intensity farming practices with perishable goods). In Kampala, Uganda, for example, "poultry production is the most common form of commercial urban agriculture," and is estimated to contribute to 70% of all the poultry products consumed in the country (Maxwell, 1995:1673).

Fungibility is often cited as a reason for urban residents to engage in some form of agriculture, particularly from a subsistence perspective. For example, unemployed urban women will grow produce in home gardens (in keeping with prevailing gender roles) that provide some form of regular and/or substantial production (for example kale or spinach) that will reduce the amount of money spent on household goods from the monthly budget allocated to her by her husband (ibid). Where such a woman may also need to provide for children and other dependants, she may be able to allocate these savings to education or other daily requirements for the household. Conversely, the fungibility of money may also serve as a disincentive for home gardens or UA. Where regular income can be earned in a non-agricultural job, this will often prove more attractive as a livelihood or welfare strategy. Here the decision would be dependent on risks involved in agricultural production where an entire crop could fail and leave the farmer without

[8] Similarly to what has been described by Mougeot (2000:26) for other African cities: "In most developing countries, municipal solid-waste management remains centralised, capital-intensive and deficit-ridden. Yet, in several African cities, neighbourhood and micro-enterprise composting has been effective. At-source sorting and doorstep collection is crucial to increase usable volumes and improve the safety and acceptance of organic waste use in UA."

anything to show for his or her time and resource investment. Many people who practice UA do therefore not rely solely on this activity, and often have multiple income sources to spread the risk.

In the case of Harare, Drakakis-Smith et al. (1995:188) describe how the ability to produce food in the urban environment is based on a household's ability to control basic inputs, "such as land, labour or capital" along with their influence over "those in authority who have the power to prevent this activity". In some cases "urban agriculture is organised by the urban bourgeoisie who have themselves been subject to increased" (ibid) societal and economic pressures. Ellis and Sumberg (1998:217) note that it is not how much experience in farming an urban resident has that permits them to farm, but rather their "ability to command land access" that is mostly possible "for those that have lived in urban communities for some time". Maxwell (1995:1672) supports this observation and notes in his research a contradiction of the common belief "that those farming in the city are the most recent in-migrants who have yet to integrate themselves into the urban economy – and suggests instead that it takes an extended period of time in the city to gain access to land for farming".

Urban agricultural models in developing and middle-income countries based on variants of community type control have shown some level of success in alleviating food insecurity, for example in Kampala (Uganda), Colombo (Sri Lanka), Rosario (Argentina) (Macmillan, 2007) and most notably in Cuba (Chaplowe, 1998, Altieri et al. , 1999). As remarkable as the findings from the Cuba experience with UA have been, it is important to note its relatively recent history: t urban agriculture only became prevalent in the country when economic ties to Russia came to an end after the dissolution of the Soviet Union and the fall of communism in 1989. In fact, urban agriculture was "virtually absent" prior to this period and "was perceived by many as a sign of poverty and underdevelopment" (ibid:133). Furthermore, the Cuban gardening movement "was born out of absolute need and it was spontaneously headed by groups of people with little knowledge about agriculture" with many cultivating for the very first time (ibid).

While this may appear to provide good incentives for the promotion of urban agriculture in the South African context, Webb (2011:203) suggests caution:

"A common finding of studies that have appeared since 2000 is that in-depth investigations show the benefits of urban agriculture to be disappointing. Yet studies based on insubstantial or unconvincing data continue to present a largely positive conception of the practice. It seems reasonable to suggest that this is a situation that calls for caution."

Vink (2004:172) suggests further prudence when he notes the failure of "urban, peri-urban or rural land reform settlements [to provide the] infrastructural support conducive to [accessing]… agricultural production. In fact, urban housing schemes provide plots far too small for even household food production." This perspective is substantiated by recent survey data on three South African cities that "demonstrates that very little food production [was]… taking place at the household level" (Frayne et al. , 2009:25).

Another possible influence on the perceived limited participation in urban agriculture relates to stigma. Wood (2009:8) argues that "there is a [mind-set] that agriculture and an agrarian lifestyle is backward. Urban agriculture is seen as a mark of poverty and desperation, and therefore, the urban poor are not eager to engage in agriculture." The question then remains whether infrastructural support accompanied by increased household plot sizes could increase the viability of urban agricultural production.

Even with these warnings, South African research, particularly in the city context, continues to emphasise localised food production systems. McLachlan and Thorne suggest that such systems "could help to promote livelihoods within the city, reduce environmentally costly food imports and start to close carbon-nutrient cycles, so helping to promote a more sustainable city for all its inhabitants" (McLachlan and Thorne, 2009:9). Questions that arise such as: 'how should these systems operate?'; 'who should operate them?' and 'who would they benefit?' are highly relevant within the inequalities of South Africa's city spaces. Furthermore, 'what level of support would be needed to sustain these systems?' Coetzee and van Averbeke (2011:286) emphasize the highly dependent nature of community garden projects in the current South African context. Should localized systems be so reliant on support or are there models that are more sustainable?

2.2 Organisational form

An organisational form that has often been promoted to help support smallholders to gain access to markets is the co-operative model. Issues of compliance with legislative obligations (in meeting the specifications of the Agricultural Product Standards Act of 1990 for example) and meeting demand requirements (from the formal retail sector) are two major considerations for promoting this collectivisation model. Alexander Chayanov (1991) provides some of the conceptual background to the co-operative concept. The promotion of the co-operative as a smallholder development paradigm is an attempt to align smallholders with the market, providing them, at least theoretically, with the ability to collectivise their actions to gain the benefits of economies of scale, both from a purchasing of inputs perspective, and from marketing and sale of outputs perspective (Chayanov, 1991:207, Philip, 2003).

Chayanov described various ways in which the co-operative concept could bring Russia's early twentieth century peasantry into the capitalist economy. The vertical concentration of smallholders into the wider economy would provide them with the means to benefit from the capitalist system. Here I will provide a rudimentary description of how he conceptualised this process would materialise. Because agriculture was not able to consolidate horizontally, as was possible for the industrial sector (meaning you could not take all the smallholder family farms in a valley, join them and let them be managed as one), a linkage of smallholders, with the goal of benefiting from the coordination of their combined sale of product would work better. Here, the peasant way of life of family farming, could remain intact and at the same time it could take part in the capitalist economy (Chayanov, 1991:xxvii). For Chayanov this was the primary role of the co-operative. Later on in the progression of his theoretical framing of the co-operative he included another role, that of the benefits of co-operation on the wider economic and social systems "in comparison with those of a large-scale capitalist economy" (ibid).

Jara and Satgar (2009:7), in their description of the history of the co-operative movement in South Africa describe the successes and power of white co-operatives during the apartheid-era. During this period co-operatives were provided with considerable support through the legislative system that included the Marketing Act of 1937, and the subsequent amendment in 1968 which "enabled use of various policy instruments (such as single-channel schemes, pool schemes and

export monopolies) to manage the marketing of agricultural commodities through 23 marketing (control) boards" (Ortmann and King, 2007:46).

Ortmann and King (2007:47), describe how post-apartheid saw the removal of state control with the introduction of the Marketing of Agricultural Products Act of 1996 " which ended state control of agricultural commodities and resulted in the demise of the marketing boards." Subsidies were abolished earlier in the 1990s and along with this, white co-operatives' "regional monopoly powers" (ibid). This saw a movement of white co-operatives to becoming registered businesses or "investor-oriented firms" (ibid:41) and departing largely from their co-operative roots where members serve the interests of the farmers, to a position where shareholders own and manage the operations (ibid:48).

The contemporary support for the co-operative movement through the new Co-operatives Act of 2005 has removed the primary focus from the agricultural sector toward an inclusion of "consumer, housing, worker, financial services, burial society, and service cooperatives" (ibid:46). The mandate for co-operatives moved from the Department of Agriculture to the Department of Trade and Industry, an indication of the shift in emphasis for co-operatives from merely an agricultural focus, toward a more general support structure.

Philip (2003) describes the difference between worker co-operatives and user co-operatives and how support for each, within the agricultural context, would impact on business development, employment creation, and group support. She notes the emphasis on developing worker co-operatives that have as a key defining feature "that worker-members in the co-op own and control it, on the basis of 'one member one vote'. In this way, worker co-ops potentially provide a radical alternative to the employment relationship found in conventional enterprises; and many of the difficulties they face relate precisely to this attempt to redraw the relationships between 'owners' and 'producers' – when co-op members combine both roles" (2003:4).

Support for user co-operatives is given less emphasis in the current South African development paradigm. User co-operatives include "members [who] are users of the co-op's economic services, rather than necessarily being workers in the enterprise" and where "members use

collective organization to create economies of scale, as a way to enhance their economic access or to gain economic advantage, whether in relation to purchasing, marketing, access to financial services" (ibid:5). Philip notes the importance in supporting this aspect of co-operatives, especially for the unemployed, where "the challenge of survival is so great, that all forms of entrepreneurial activity need to be embraced, across a continuum that may start with livelihood strategies such as resource harvesting from communal resources, subsistence farming, survivalist micro-entrepreneurs, family businesses, more formal and growth-oriented small enterprises or agricultural initiatives, and, of course, worker co-ops" (ibid:23).

Within the worker co-operative context, Theron (2003) describes three stages of co-operative development that I believe best describe the reality of primary agricultural co-operatives in South Africa today. The first is the survivalist stage, where "members are engaged in economic activities that enable them to subsist but there is no question of their generating a surplus" (ibid:3). The second stage is where "members are primarily concerned with subsistence, but there is some prospect of the co-operative making a surplus and accumulating some capital (ibid). The third stage is where a co-operative could be considered "established" where surpluses are generated and capital accumulated "on a sustainable basis" (ibid).

Another popular organisational form for urban agriculture that exists mostly in Europe and Japan is the allotment system (also called allotment gardens or allotments).[9] In the United Kingdom, "allotments are the oldest and most important public resource in terms of the scale of people involved and the amount of land dedicated to urban agriculture" (Howe, 2003:256). These are in fact multi-use spaces where urban growers are able to attain "direct access to fresh and affordable fruit and vegetables, organically grown if preferred, physical exercise at low cost and accessible to many people who are not involved with active sports" (Wiltshire and Azuma 2000:141). Benefits to the public in general include "the promotion of good health (with associated cost savings to the taxpayer), including opportunities for horticultural therapy to aid people with mental or physical health problems", and the "provision of 'green space', especially in urban areas" (ibid). Plot holders typically rent a space of approximately 250 m^2 that sits alongside other equally portioned spaces within a larger space that has been allocated to the

[9] See Wiltshire and Azuma 2000 for the history of allotments in the United Kingdom and Japan.

allotment. Each plot is provided with fencing, water, and general maintenance.[10] While these developed country models are not intended as poverty alleviation or livelihood support mechanisms their management systems and some of their advantages could be considered for urban food production strategies in developing countries.

Bellows (2004) provides a useful account of the history of the Polish allotment systems that offer scenarios under which an allotment agenda might be relevant to any current thinking on urban agricultural development. Here I give a brief overview of this history to provide a broader understanding of what forms allotments could take. The early development of allotments in urban Poland had two primary roles, the first was to provide displaced peasants with "a piece of Polish soil" satisfying what Rose (1935:251) had called their "land hunger" (Bellows, 2004:249). The second was where "private owners and public officials lured peasants to the labour of their growing mining and industrial towns not only with salaries, but with the offer of a small piece of land on which to produce food, land that lay near their job sites on railroads, factories, and mine heads. Work places and gardens existed side-by-side and cities grew around them" (ibid:249-250).

With the onset of the industrial age and the move away from primarily agrarian-based society came the release of peasant populations from land bondage and serfdom and a new bourgeoning demand for industrial labour supply. "Thus, at the moment that the peasant population began to achieve basic political and civil rights, including the right to move away from a landlord and to own property, the new economic system created competition for the profits of their "freed" surplus labour. This historical background frames how urban allotment gardens began" (ibid:254). People who worked allotments had better "access to fresh foods and healthy forms of free time recreation that benefited workers' overall health, productivity, and locational stability" (ibid).

More recently the Polish allotment movement has changed its focus from supporting a food security drive (prevalent in the early twentieth century and during the food shortages of the 1970s and 1980s) toward a focus on urban greening and relaxation (ibid:268), following the trends of west European garden associations (ibid:269). If a similar model of allotments were to

[10] http://www.nsalg.org.uk/allotment-info/. Accessed: 4th February 2013.

be considered for contemporary South Africa, a focus on food security would be pivotal. Caution would be required to avoid creating a system accessible only to the privileged and wealthy as evidenced in Japan where only a few can afford to rent the allotment plots (Wiltshire and Azuma 2000:145).

These organisational forms, the co-operative and allotment models, comprise important concepts that need to be considered seriously within the development discourse, particularly within the urban and peri-urban spaces of South Africa. While support for the development of worker co-operatives has been emphasised and is of importance, user co-operative support mechanisms need to be further developed to help foster the entrepreneurial and survivalist nature of urban and peri-urban South African society. Where large tracts of land are given to groups of people through redistribution or restitution, allotment models should be considered to foster the entrepreneurial talents of people and support communal ownership with some individual ownership capacity and accumulation potential.

2.3 Market systems

Supermarkets are a key component in providing food to urban people. If a household has cash they are able to source food products from low-cost, chain supermarkets that provide "quality food at a lower price than other shopping outlets" (D'Haese and Van Huylenbroeck, 2005:111). This is often due to the ability of supermarket chains to purchase bulk supplies at a cheaper per unit cost, but also to their ability to dictate prices and to put pressure on suppliers to lower prices. In addition to the advantages of cheaper food for a household, prevailing ideas on "buy[ing] the food instead of producing it themselves gives the households labour time to invest in other income-generating activities" (ibid).

Lahiff and Cousins (2005:129) ascribe the monopolised nature of South African agricultural markets to their "lack of regulation", and to how this tends to "serve the needs of large-scale commercial producers". This market environment is advantageous to the larger commercial agricultural enterprises that are able to supply large quantities consistently and meet any specific requirements of the buyers - large supermarket chains and centralised market agents. The quantities required cannot be met by small-scale producers unless joint ventures are initiated. Large-scale producers also have the infrastructure to deliver their products at more affordable

prices whereas small-scale producers are largely unable to access these markets, lacking the capital infrastructure and financial security that is integral to the success of the capitalist classes. Linked to these increasing returns to scale is an inverse relationship with labour. Production increases are often accompanied by "lower effective capital costs relative to labour costs", and therefore over-investment "in more machines that replace labour" resulting in higher unemployment (Van den Brink et al. , 2007:157).

Weatherspoon and Reardon (2003:4) describe how the number of supermarkets in Africa has increased since the mid-1990s and how South Africa has been at the forefront of this increase. The sector is dominated by four main chains that account for 90% of the supermarket sector. These include Shoprite/Checkers, Pick n' Pay, Spar, and Woolworths (ibid). Furthermore, the post-apartheid expansion of a black middle-class has seen supermarkets move into "the urban townships and the towns in the former homelands [with SPAR] … leading this charge" (Greenberg, 2010:6).

Shoprite's out-grower scheme numbers approximately 300 mainly large growers who "supply agreed volumes and certify the compliance to private standards for pesticides and microbial residues and quality attributes such as size and colour" (D'Haese and Van Huylenbroeck, 2005:110). Pick n' Pay's preferred suppliers "have an informal understanding with the supermarkets that if they fulfil the demands week after week they will not be removed from the list" (ibid). While it is possible for smaller farmers to supply to supermarkets (mostly to Spar and less often to Pick n' Pay) they are less likely to be awarded contracts due to their limited production capacity.

An estimated 32–45% of the food market in South Africa is based outside of the corporate sector and "includes the 'informal' trading sector, incorporating all sizes from some small general dealers to spaza shops to roadside vendors, as well as government procurement" (Greenberg, 2010:6). Poorer consumers generally "lack easy access to transportation and hence tend to make most of their food expenditures within walking distances of their homes or work" (Jayne, 2008:129). This observation could suggest support for an informal market environment that could be more easily accessed by the poor. The rapid expansion of supermarkets, however, has

led to an evisceration of "local trading stores that, before retail deregulation, formed the hubs of a local credit economy" (du Toit, 2008:8).

In the year 2000 the number of street traders in South Africa was estimated at 500,000 with 70% of hawkers being women, and 70% of hawking relating to the selling of food (ILO, 2003:4). In the central business district of Johannesburg there were between 3 000 and 7 000 traders, and in Greater Johannesburg, between 12 000 and 15 000 (ibid). These estimates indicate significant use of informal street trade and suggest the considerable potential for alternative food supply models. In that same year it was estimated that in Durban, street traders sold approximately 28 tonnes of cooked mielies per day that equated to a turnover of approximately R200 000 per day (ibid:8). This substantial urban demand for street sold food provides some incentive for local farmers and should be considered by urban planners and policy makers when thinking about urban food access and related issues. The question remains whether local and small-scale farmers can access these alternative food networks, or whether it is still only a domain for the larger commercial farmers who tend to 'dump' their produce on the informal market.

Van Rooyen et al. (1997:473) in their study on the informal marketing of fruit and vegetables in the two South African suburbs (referred to as "townships" in the study) of Kagiso in Krugersdorp and Orange Farm south of Johannesburg found that 15% of produce sourced by Kagiso traders was from local farmers with 10% from the Johannesburg Fresh Produce Market (JFPM) (the remainder from wholesalers), whereas in Orange Farm 93.5% was from the JFPM with 0% sourced from local farmers. These statistics, particularly for Orange Farm, would suggest that there is limited interaction between traders and farmers in the area, though it may also be due to limited farming activity in that period or to convenience with accessing produce from the JFPM (price and transport – the market is closer to Orange Farm than it is to Kagiso).

Niche markets are another possible entry point for smallholder farmers, particularly for African farmers. Thamaga-Chitja and Hendricks (2008:319) support this notion, particularly with respect to the organic sector, when they note the "similarities between organic production systems and most African production systems." The organic sector, however, has been criticised for its inaccessibility to smallholder and particularly to resource poor farmers largely due to high certification costs. Certification through global standards (most credible regional standards are

based on a global standard) legitimises the sector and "should facilitate market expansion" (Dimitri, 2010:386). It is therefore required to regulate the sector. Third party certification "is based on reviews of applications, which include operator internal procedures such as organic system plans, and an annual inspection visit by a trained independent inspector" (IFOAM, 2011). The question thus arises whether smallholders can access these markets, and in the South African context specifically, whether African smallholders can be permitted access?

One possible access point could be through the Participatory Guarantee System (PGS), a locally focused assurance system that has been endorsed by the International Federation of Organic Movements (IFOAM)[11] and provides organic assurance that is accessible to less resourced farmers. "Participatory Guarantee Systems share a common goal with third-party certification systems in providing a credible guarantee for consumers seeking organic produce" (IFOAM, 2008:1). In comparison with third party certification, the PGS has "a much more intensive interaction between the farmer and the guarantee organization and uses different tools to maintain integrity. PGS integrate capacity building and allow farmers and reviewers to help solve practical problems which will enable producers to follow the standards. The direct relationship to the process, and the fact that it is owned by the farmers and related stakeholders, encourages more responsibility and active involvement in the design of production and certification processes" (IFOAM, 2011:1). The costs for such assurance systems vary between different systems but are generally minor, particularly in relation to third party costs.

Despite the range of benefits that the PGS offers to smallholders, "very few countries have taken measures to support the growth of organic PGS initiatives. In many cases, governments are even inhibiting PGS development by setting up organic regulations that do not take them into account" (IFOAM, 2011:2). In South Africa the PGS concept has been included in a voluntary organic standard that, at the time of writing, was under review for approval by the South African Bureau of Standards (SABS). Should the standard be approved in the current format, this will provide an access point for smallholders who wish to access organic niche markets. While it is not likely to change smallholder marketing concerns entirely, it could provide some important opportunities.

[11] http://www.ifoam.org/index.html. Accessed: 4th February 2013.

2.4 Alternative agricultures

Alternatives to a large-scale commercial model include 'organic', 'conservation', 'traditional' and 'sustainable' agricultures. They are generally low input and encourage mimicking ecosystems to control pests and disease outbreaks that are common in monoculture systems. Alternative agricultures are often criticised for not being able to feed the world's population (Connor, 2008:189), as idealistic, or as 'moving backwards' in a modern era where society should be 'progressing'. Proponents of organic agriculture argue that in fact higher yields are "obtained when farmers incorporate intensive agroecological techniques, such as crop rotation, cover cropping, agroforestry, addition of organic fertilizers, or more efficient water management" (Badgley et al. , 2007:92). They maintain that in some cases "organic-intensive methods resulted in higher yields than conventional methods for the same crop in the same setting" (ibid). Perhaps more important is the finding by Pretty et al. (2003:223) that the "relative yield increases are higher at lower yields, indicating greater benefits for poor farmers, most of whom have been missed by recent decades of agricultural development". This is significant because it may have positive implications for proponents of small-scale agriculture in South Africa and for poorer and less resourced, mostly African, farmers in particular.

While the virtues of organic agriculture have been well documented (Barrow, 2006, Rodale, 2011) some have pointed out the misleading nature of the term organic within the commercial farming sector. Some 'organic' producers have lost sight of the original ethos of the movement which placed an emphasis on a "close correlation between the health of the soil, quality of food, and human health and wellbeing" (Vos, 2000:246) and to "challenging the hegemony of the agro-industrial paradigm, and proposing and exploring alternative society-nature relations" (ibid) only to become a watered down version of commercial agriculture, or "organic lite" (Guthman, 2004).

Conservation agriculture (CA) is another increasingly popular alternative that is promoted by the Food and Agriculture Organization of the United Nations (FAO) as a possible strategy to support smallholder agriculture in Africa (Silici, 2010, Thiombiano and Meshack, 2009) and as an alternative to conventional agriculture that works with - and not against - nature. It proposes three fundamental principles that attempt to encourage ecological processes at the same time as

producing food on an industrial scale. The three principles upon which CA are based are: "(1) minimum or no mechanical soil disturbance; (2) permanent organic soil cover (consisting of a growing crop or a dead mulch of crop residues); and (3) diversified crop rotations" (Giller et al. , 2009:24). These principles promote highly diverse planting systems and basic soil building technologies. Manual weeding and planting together with a 'no till' philosophy would necessitate greater herbicide use and an increase in labour requirements periodically through the growing season (ibid:27). The latter, if adequately supported by South Africa's Department of Labour and DOA, could prove highly attractive, particularly in light of the country's high unemployment rates. More affluent CA farmers use herbicides to remove weeds and can reduce their labour requirements. For co-operatives and 'community' farming projects where labour is often more plentiful, herbicide inputs could be reduced or removed completely, reducing external costs and increasing the role of labour (attractive options for both the broader environment and specifically for agricultural labour in South Africa).

Giller et al (ibid:25) offer a critique of CA when they describe Kenyan smallholders' inability to spare their crop residues for mulching purposes. These farmers either burn residues as a means to increasing soil fertility or else store it as winter feed for cattle. The authors show how difficult it is for these farmers to abide by all of the CA principles and that if not followed correctly, the widely documented benefits of the practice (Godfray et al. , 2010, Hobbs et al. , 2008) would not be realised.

CA, contrary to these critiques, has recently received some attention in South Africa and is considered a legitimate alternative to the commercial high input agriculture that currently dominates the sector. The method certainly warrants interest although careful consideration of critiques is prudent. Smallholder agriculture in South Africa, similar to the Kenyan case, may not be in a position to spare agricultural wastes for use as mulch. In addition, the successes seen in CA amongst more affluent farmers could be attributed to the greater herbicide application and use of CA technologies (specialised harvesters etc.) and generally are not accessible to South African smallholders.

Another alternative to commercial high input agriculture is traditional farming conducted in accordance with agroecological farming practices (Altieri et al. , 1998, Altieri, 2002). The

argument is that traditional farming systems constantly evolve in accordance with local climatic and ecological conditions; that they have low input requirements; that they are highly productive (particularly in low fertility areas); and that they are less susceptible to pest infestations, to nutrient leaching, and to soil erosion – owing to the plant diversity of the growing system, to the high microorganism content of the soils, and to the continuation of the growing cycle where soils are not exposed to the elements (Altieri et al. , 1998, Altieri, 2002).

However, for alternative systems to flourish an advanced level of understanding of ecological processes, soil composition, and geographical variation is required. Regrettably this knowledge is often lost to modernity. Pilgrim et al. (2008:1004) describe the nature of knowledge acquisition and evolution with respect to the ecosystems within which so-called "traditional communities" live. They describe how these "communities become less reliant on local resources and begin to adopt modern lifestyles," and in so doing lose ecological knowledge, "either as it is supplanted by modern knowledge or is no longer transmitted" (ibid). In South Africa, particularly in the urban context, this push by modernity and urbanisation holds true. It is often the case that traditional knowledge systems on ecological and holistic processes are lost to visions of success that include increased mechanisation and thus capacity, facilitated by the expansion of synthetic production inputs and technological advancements.

2.5 Conclusion

This chapter has reviewed the literature on UPA, the organisational forms it encompasses, the market systems it engages with, and alternative agricultural forms it takes, with particular reference to the South African context. It has shown that UPA tends to be highly support-oriented with some critics suggesting that it has limited benefits for the urban poor. Worker co-operative models are provided with support but are largely failing to benefit the workers themselves. Informal markets, however, are an important food distribution mechanism and provide a livelihood for many of the urban population. While alternative agricultures are an important alternative to input-heavy commercial variants, the limited knowledge on how to manage these systems is something that would need to be addressed by agricultural extension support if it is to be popularised in the South African context.

Chapter Three: Conceptual framework, methodology, and research focus

This chapter provides a self-reflective account of my journey through the research process. I describe my conceptual evolution from idealism and a new institutional economics through to a critical analysis and political economy. I then provide an in-depth account of my methodological journey and the tools used to gather the empirical data that follows in the remainder of the chapters.

3.1 Conceptual framework

In 2010 I was the 'Permaculture Programme Manager' at Food and Trees for Africa (FTFA), the first social enterprise addressing sustainable development through food security and greening in South Africa.[12] I believed that permaculture was the solution to problems of environmental degradation and global hunger. FTFA were contracted by the private and public sectors to implement food production programmes in 'previously disadvantaged communities' throughout South Africa. The Department of Agriculture's (DOA) LandCare programme, corporate social investment (CSI)[13] initiatives and private investment were reported to have played a role in providing 'food security' for the 'previously disadvantaged' and the country's poor. FTFA funding was used for fencing and irrigation infrastructure, for inputs and, in some instances, for wage payments for project members. I would observe that many of these projects would end shortly after the funding cycle was complete, primarily a consequence of limited or non-existent business plan development, implementation or long-term planning. School projects were most successful, particularly where the headmaster or headmistress was in support of the initiative.

For me, working at FTFA was an opportunity to change people's understanding of the nature-society linkage: from one of society's exploitation of nature to one of society's sustainable use of it. I believed I was in a position where I could positively impact on people's wellbeing through the imparting of a simple knowledge system that could provide the means to attaining abundance and natural wealth (a mantra of the permaculture movement). I believed that smallholder food production should be promoted and supported in urban spaces and that people could be taken out

[12] www.trees.co.za. Accessed: 4th February 2013.
[13] CSI is also referred to as Corporate Social Responsibility (CSR).

of poverty and their health improved through producing and eating organic food and through gaining access to more lucrative and formalised markets. School gardens could contribute vegetables and fruit to school feeding schemes and project members could make a small income from sales to local residents in addition to the benefits accrued from the reduced need to purchase fresh produce for household consumption.

During my time at FTFA I started to become disenchanted by the organisation's work on the ground. Their intensions seemed good but in practice they were ineffectual, or at least, not as effective as they could have been. From my perspective, CSI initiatives appeared to be designed to last the course of the CSI funding cycle with little effort or ability to create sustainable developments that would continue unaided into the future. Some CSI groups do work tirelessly to establish more effective and enduring programmes and should be commended for this, but from my experience, these are few and far between. It was at this stage during my career with FTFA that I came across the postgraduate programme at the Institute for Poverty Land and Agrarian Studies (PLAAS). I applied and embarked on a learning journey, an attempt to question and improve urban pro-poor development strategies of post-Apartheid South Africa. My interest was in urban and peri-urban smallholder production projects that used sustainable farming techniques and were attempting to access niche markets, in particular, the organic market sector in Johannesburg.

Evolving perceptions of development

Despite my early disillusion with development (while working at FTFA), I entered into the research process with a degree of idealism.[14] I assumed that to provide training in permaculture design for poor urban South Africans was to provide a means to alleviating household poverty and food insecurity. In addition, I felt that to provide access for black smallholders to niche markets, in particular to the organic market sector, would increase the possibilities for these

[14] This can be seen from an excerpt from an essay I wrote in the early stages of this research process where I asserted the World Bank to be intent on directing smallholder agriculture toward a corporate accumulation model and incorporation into agribusiness without considering "the potential of alternative agricultural models. Research focussing on urban ecological models will provide such an alternative. The ability of urban producers (plots found in informal and formal settlements in and around Johannesburg) to supply produce to urban value chains will provide an insight into how smallholder agriculture can be situated in a competitive environment that is not focused on providing for corporate accumulation. Producers provide for the local markets and cut out the 'middleman' (i.e. the Joburg Market where producers are squeezed depending on national supply)" (Lewis 2010). In the essay I assumed that smallholders could access such alternative markets instead of attempting to assess the conditions of possibility for such access.

smallholders and would increase their ability to accumulate through increased sales and income generation. After some deliberation I decided that a value chain analysis undertaken using the commodity network approach (Raynolds, 2002, Raynolds, 2004, Bolwig et al., 2010) would provide me with insights into these chains, into the reasons that made it possible or difficult for smallholders to access these chains, and into ways in which access could be facilitated. In addition to this approach I intended using the sustainable livelihoods approach (Scoones, 2009) to gain a more holistic understanding of the data.

My initial conceptual influence was new institutional economics perspectives, best exemplified by my belief that giving smallholders' access to niche markets would provide them with the opportunity to succeed within the capitalist society we find ourselves; or as "efficient, small-scale farmers, who are enabled by appropriate … development policies to maximise returns of land and contribute to … non-farm economic growth" (Cousins and Scoones, 2009:11).

At present I find myself considerably more sceptical of assertions that facilitating smallholder access to niche markets will help them to come out of poverty or that they will be able to access such markets at all. More importantly and with respect to my research, I now believe that a conceptual analysis of the empirical data from a political economy perspective will provide more useful findings that will help me to develop more realistic recommendations for the future of agrarian reform in South Africa. My reading on the conceptual underpinnings of political economy approaches, particularly by Henry Bernstein (2010), Ian Scoones (2010) and Ben Cousins (2005) , has directed me towards this more critical path of discovery. In addition to this conceptual lens, I have made use of aspects of the commodity network approach to try to provide a "nuanced analysis of the institutions and relations of power, emphasizing the role of social and political, as well as economic, actors and actions…" (Raynolds, 2004:725).

3.2 Methodology

I entered into this research process with the preconceived notion that I would follow a primarily qualitative approach to the fieldwork. I was trained in the school of social anthropology, and followed a Geertzian interpretive approach, specifically a focus on 'thick description', the "sine qua non" of the interpretive approach (Rapport and Overing, 2000:352). A methods workshop and some intensive reading, however, provided some alternative avenues of thought for my

methodological approach. Firstly Carrithers (1988:21) cautioned, in a critique of Geertz's (1988) 'Works and Lives', that it is "wrong to make mere literature of ethnography." Though I read Geertz's (1988:147) work from the perspective of his next step, of an enlargement of "the possibility of intelligible discourse between people quite different from one another in interest, outlook, wealth and power", I did take this caution seriously. My previous anthropological writings had lacked the rich description and interpretation of an ethnographic study and may have been considered a literary exercise of self-reflection, missing the substantive issues and causal relations.

Further influences on my thought processes on methodology came from Asad's (1994:57) argument that "statistical[15] concepts and practices are essential to the systematic manipulation of complex social formations" and Sayer's (1984) advocacy of a combined, extensive and intensive research design. The use of historical texts and questionnaires was not new to me, though the value of incorporation of quantitative data was. Professor Cousins explained that extensive research design considered formal relations of similarity to produce descriptive and representative generalisations that were lacking in explanatory penetration, while intensive research design considered substantial relations of connection to produce causal explanation of the production of certain objects or events, though not necessarily representative ones. Generalisations add value as they depict the structural aspects affecting a local reality and substantive connections are important as they provide the diversity within this overarching sense of order.

In making choices about field sites for intensive research I considered places where it appeared that critical sets of circumstances were present. Some producers in the city appeared to have built bonds with local government officials that permitted them to retain access to land and other resources to eke out an existence, and had entered into social relations based on community bonds and personal relationships that endured and that had evolved. These would provide some vivid stories that would depict the varied social realities on the ground.

To properly encompass the extensive and intensive processes and to properly address the thesis aims and objectives I made use of research methodologies that included participant observation,

[15] Asad (1994:57) uses the word "statistics" to refer "both to social surveys and to probability theory…"

structured questions for project members, structured interviews with stakeholders, and life histories. I administered structured questionnaires to project members to help provide detail of the organisational structure of each project based on the membership's understanding. In addition, questionnaires were used to clarify what inputs were used on site, what the outputs were, and how these outputs were distributed. The interviews with the various stakeholders were used to gain an understanding of how the projects were perceived to be organised from above (mostly from the perspective of the COJ Regional authorities). Life histories permitted me to gather historical data about key members and in addition, of the history of the project, from the membership's differing perspectives. Overall, participant observation was used to better interpret the nuances of the organisational aspects of each project and how project members understood the benefit of these projects toward their livelihoods. In addition, my 'being there' (working with members and engaging in their daily activities), would provide me with insights into how middle-class markets engaged with poorer urban agriculturalists, if they did at all.

3.2.1 *Evolving methodology*

Professor Ben Cousins, my supervisor, advised that I follow a staged approach to the research programme but not without warning that this approach would by no means be set in stone. I would revise my plan, time and again and would likely even reformulate my entire focus, including research questions, conceptual framework and methodological approach. Our NRF research group was asked to complete some essays on the global food regime, large versus small-scale agriculture and on the 2008 World Development report and its relevance to our research projects. These writing tasks, with prescribed suggested readings, provided some context and an opportunity to consider and debate agrarian and land questions in South Africa. In addition to providing a broad intellectual framework from which to begin the research process we were directed toward influential theoretical perspectives pertaining to the agrarian and land discourses (some of which I have described above).

Methodological approaches and contemporary social science debates on the virtues of the positivist versus more nuanced empirical approaches were explained and debated. Professor Cousins made clear (as I perceived it) his support for Sayer's (1984) intensive-extensive research design approach (as was described above) and immersed the group in debates on the value and

shortcomings of these and various other methodological approaches which assert the difficulty, but also the importance of, merging what is commonly termed 'qualitative' and 'quantitative' methodologies. My anthropology training had raised similar issues about appropriate methodological approaches and emphasised the value of including longitudinal and historically-rich accounts of the people studied. However, the quantitative methods preferred by the so-called "hard" sciences were only referred to and were not seen to be of great importance to our anthropological work. Sayer's approach differs and does not provide binary opposites (qualitative OR quantitative approaches) but instead speaks to the value of both in a slightly different form. The research design would endeavour to incorporate the substantial with the formal and the causal with the descriptive to provide a rich tapestry of representation. This was by no means a linear process. It was likely that additional extensive work would need to be conducted at a later stage in the process and that intensive work would need to take place at earlier stages, and throughout the entire process.

3.2.2 *Positionality and ethics*

I was always very much aware that I was an outsider at the respective projects. The most obvious difference was my whiteness, a stark contrast to everyone else's blackness. To best position myself within these various farmer groups I chose to offer my labour to their different operations. In doing this I attempted to show my willingness to support their efforts, at the level at which I felt they most respected, through physical labour. Even though I would not work the entire time, I made sure I wore my gardening clothes on each visit, usually the same clothes each time. Most of the members also wore the same clothes on a daily basis. This provided a familiarity which made me feel not so different, that made me somehow fit in better. In addition, I would always bring small amounts of fruit, bread, and drink. I tried not to be seen as the person who always brought something so I limited the amounts that I brought but made sure to bring extra on special occasions.

At first I described myself as wanting to provide support for accessing alternative market spaces. Later on in the process I tried to distance myself from this perception and instead expressed how I merely wanted to observe how things worked, without influencing anything.

When engaging with government officials I described my intention to provide recommendations on how to possibly improve the urban farming programmes they were implementing. To gain their trust and support I provided certain of the officials with links to alternative marketing networks and sent them notifications of relevant meetings and functions that they might be interested in attending. In doing this I developed some good relationships that helped me to be better informed of COJ or other meetings that were taking place.

Project members were informed of the nature of the research and of my desire to present their voices and their opinions through the writing of the final report. While none of the participants requested anonymity, I chose to not disclose their identities due to the nature of some of the conflict at the sites. Where official state actors were interviewed I requested that sessions be recorded and consent was provided during these sessions. In most of these instances legitimate names were documented.

3.3 Research framework

My field research phase began with some intensive research that included informal conversations with people involved in the agricultural sector and preliminary field site visits. I then conducted some large-scale surveys at four sites as part of the extensive component in the form of an income and asset survey. These were assessed and chosen during the preliminary field site visit stage (see below for detailed account). Thereafter I worked on a comprehensive mapping of Gauteng agriculture to ascertain the agricultural lay of the land. Based on this mapping and a preliminary survey analysis I made decisions on which research sites to focus on for further intensive research purposes. This took place during two six-week blocks between November 2011 and May 2012.

3.3.1 *Stage one - preliminary intensive*

The first stage consisted of informal conversations with various role-players in Gauteng's organic agricultural sector including retailers, the market sectors, civil society organisations and government representatives, with a specific interest in those involved in smallholder production. This initial intensive work was undertaken to gain a better understanding of the sector. I wanted to work my way upstream, from the product sold on the market - in the broadest sense of the

term but including the Johannesburg Fresh Produce Market (JFPM), retail outlets and alternative markets - back to the producers, and in the process compile a database of producers in Gauteng.

My first port of call was with the contacts I had made whilst employed at FTFA. These included development workers, other non-governmental organisations (NGOs) and agricultural projects supported by FTFA and other greening NGOs, in Gauteng but also in the rest of South Africa. FTFA allowed me to access their database of school projects that practice permaculture and are organic by default - they do not use chemical inputs due to the costs and practice 'traditional' farming methods. Rob Small from Abalimi Bezekhaya[16] in Cape Town, another FTFA contact, welcomed me to join him on his weekly tour of small farmer projects in Phillipi – the 'Friends of Abalimi Tour'.[17] Rob provided me with nuanced background knowledge of the South African organic sector and of how Abalimi Bezekhaya's model functioned to include poor urban and peri-urban farmers.

I wanted to make sense of Abalimi's model to find out if it could be replicated in other South African cities to equally benefit their smaller farmers. What I learned from this visit was that the poor living in urban and peri-urban areas who engaged in small-scale farming activities could have some level of success if they were provided with regular support, with planting schedules, free water supply, marketing coordination, and input supplies (regular seed and seedling, and compost supplies). The model appeared to be sustained only with this regular support, and while it did include farmers in the marketing aspects of the programme it was not clear how they would succeed without the NGO's support. Never-the-less, this was the most inclusive marketing model I could find and would provide lessons for other contexts that I could include in my overall analysis.

I then visited the Johannesburg Fresh Produce Market (JFPM) and interviewed Craig Pillay, the market's quality assurance manager. He noted that smallholders struggled to meet the requirements of the market but that there were some agents who supported emerging farmer groups. When I asked him for a list of their so-called emerging farmers he stated that the market's supplier database was not reliable and that it would be difficult to access such detail.

[16] "an urban agriculture (UA) and environmental action (EA) association operating in the socio-economically neglected townships of Khayelitsha, Nyanga and surrounding areas on the Cape Flats near Cape Town, South Africa" (http://www.abalimi.org.za/index.html#bottom). Accessed: 4th February 2013.
[17] http://harvestofhope.co.za/friends-of-abalimi-tour/. Accessed: 4th February 2013.

Farmers who supplied the market would often be registered under more than one name and even with this detail, physical location was not often specified. "Crates come with the farms logo stamped on the side, but it is not always clear where they are from" stated Craig.[18] Woolworths' sustainability manager, Tom Mclaughlin, provided me with a list of the company's Gauteng farmers who produce under the 'Farming for the Future' brand. He provided this information on condition that I not make it available to the public. I could, however, contact these suppliers and do follow up work if my research required it. Konrad Hauptfleisch from the Bryanston Organic and Natural Market (BONM), based in the northern suburbs of Johannesburg, also provided me with some supplier detail. One of the market retailers, Lucy Mabundza, who sold organic vegetables, was also helpful in this regard, though she was unable to provide specific detail of suppliers. It appeared that her network of suppliers was not as transparent as Konrad would have liked, and perhaps not as 'organic'. Later on in the research process and through my continued engagement with BONM I got to know Lucy and was able to gather details of her supplier network and of other market related scenarios.

3.3.1.1 *Politics of organics*

Konrad gave some insights into the then current certification debate and described the various role-players. Wensleydale farms[19] was the most visible organic producer and distributor in the Gauteng region but was also the most controversial. They supplied fresh vegetables and processed organic goods to export markets, to BONM and to Pick n' Pay. They had established their own certification body the Bio-Dynamic and Organic Certification Authority[20] (BDOCA) and were certifying products at cheaper rates than were the internationally established certification groups such as ECOCERT and AFRISCO.[21] BDOCA provided a more affordable certification package that could be seen as a solution for poor farmers wanting to access organic markets. Tim Jackson, the now deceased owner of Wensleydale, welcomed me on to his farm where I spent time observing production methods, distribution, and worker/owner on-farm relations. He was representative of yet another segment of the sector. He wanted to provide

[18] Interview, Craig Pillay, Johannesburg Fresh Produce Market, 11 March 2011.
[19] http://www.wensleydale.co.za/. Accessed: 4th February 2013.
[20] http://www.bdoca.co.za/about.html. Accessed: 4th February 2013.
[21] http://www.afrisco.net/. Accessed: 4th February 2013.

easier access for farmers to certification but said that there were standards that had to be maintained, and safety requirements that could not be jeopardised.

Konrad had mentioned another assurance system, mentioned in chapter 2, called the Participatory Guarantee System (PGS) that was an avenue smallholder producers could follow to access alternative organic markets without the exorbitant costs (annual fees of approximately R12 000 per farm). For Tim this was where standards could be jeopardised and where he disagreed with Konrad. The PGS is a locally focused quality assurance system that certifies producers based on active participation of stakeholders and is built on a foundation of trust, social networks and knowledge exchange.[22] The assurance system is founded on the original conceptual understandings of the organic movement that encouraged local and seasonal food consumption and knowledge exchange on family and community run farms.

It was at this early stage that I began to uncover insights into the nature of the South African organic sector. The sector has gone through considerable turmoil since its inception in the mid-1990s with a number of certification agencies attempting to take control of the sector.[23] BONM had embarked on a journey to support the PGS largely due to their dwindling supply base for organic produce in the Gauteng region and the ever increasing demand. This is true to some extent where large certified organic farmers supply the export market and large retail with smaller middle class white farmers supplying the middle class alternative markets. Poor black farmers had limited access to this alternative market sector and could not increase this access due to their not being able to certify their products. BONM's supply was previously sourced from this white middle class group but they were fast disappearing (mostly elderly farmers with no on-farm succession plans).[24] The BONM wanted to change their supply base to include small-scale black farmers who could not afford third party certification and therefore decided to support the PGS initiative.

[22] http://www.ifoam.org/about_ifoam/standards/pgs.html. Accessed: 4th February 2013.
[23] I attended a SAOSO committee meeting at Elsenberg in Cape Town in November 2010 where I met various sector role-players.
[24] Interview with Konrad Hauptfleisch, BONM, 21 July 2010.

3.3.1.2 *Choosing field sites*

Based on these initial exploratory discussions I was able to make choices on the most appropriate sites to visit. I tabulated these according to the following criteria: urban poor and food insecure, producer's organisational dimension, alternative production methods and location in Gauteng/Johannesburg. Specific criteria for choosing the study sites included:

- where producers could be considered poor[25] and have some degree of food insecurity;
- where the organisational dimension was based on communal ownership or control of the project;
- where the methods of production were based on non-conventional methods; and
- where the project was based in what could be considered an urban space or else peripheral to the urban in what could be termed the peri-urban space.

Criteria for choosing sites for extensive study:

		Variables			
		Urban poor and food insecure	*Producer's organisational dimension*	*Alternative production methods*	*Location in Gauteng*
Potential Projects	**1**- Indali Agricultural Project	Participants are poor and food insecure. Some have other income sources.	Co-operative structure with 14 members (from the original 112)	• Organic principles observed and promoted • Not certified organic.	• Peri-urban, informal • Kammaland AH, Vereeneging, Gauteng
	2 - Winnie Mandela Project	Participants are poor and food insecure. They rely on the weekly food delivery from the Pastor who coordinates the project. In addition, the gardens provide produce that contributes to their food security.	Co-operative with 12 members	• Permaculture principles used • Organic practices observed and promoted • Not certified organic.	• Urban, informal • Thembisa, East Rand, Gauteng
	3 - Wensleydale Farms	Middle class farmer. Farmworkers earn the minimum wage and live on the premises.	White owners with farm workers. Operation has two pack houses, one for Pick n' Pay and one for a 'box-scheme' and the local	• Strict adherence to organic practices • Certified organic (they themselves run a certification agency -	• Peri-urban, formal • Doornrandje, Gauteng

[25] From an economic perspective, that they have insecure employment or else are reliant on the state through the welfare system but also from a structural perspective where marginality is maintained and agency undermined (Du Toit 2005:26).

			farmer's market network.	BDOCA)	
	4 – Bambanani agricultural Co-operative	Participants are poor and rely on the garden as a food source and income generator. Most participants have multiple survival strategies. The garden is one of these and contributes toward their food security and income generation.	Co-operative structure – 4 people on the committee. The most active worker hires a worker and pays him a daily cash sum of money.	• Organic principles observed and promoted • Not certified organic.	• Urban, formal • Inner city Johannesburg, Bertrams, Gauteng
	5 - REEA gardens	Middle class white gardener with some volunteer support. No one is food insecure in this project.	Participant used space in exchange for provision of vegetables to the REEA centre. The garden hosts organic workshops with varied audiences and receives voluntary labour through this process.	• Strict adherence to organic practices • Not certified organic.	• Urban, formal • Craighall Park, Johannesburg, Gauteng
	6 – The Curve Food Garden	Participants eat the produce and sell the excess. They depend on access to this space for a nominal income and a source of food.	A group of 5 people that work the garden, eating the produce, and selling the excess.	• Organic principles observed and promoted • Not certified organic.	• Urban, formal • Observatory, Johannesburg, Gauteng
	7 - Siyakhana Food Garden Project	Workers receive monthly income that is paid through corporate funding. Workers are not considered food insecure.	Wits University manages the programme. The space is used as a training facility, adding significant financial value to the gardens. Produce is distributed to the Wits medical school clinics in the vicinity.	• Permaculture principles used • Organic practices observed and promoted • Not certified organic.	• Urban, formal • Bezuidenhout Valley, Johannesburg, Gauteng
	8 – Norah's Organic Gardening Project	Producers are from the local informal settlement (Barcelona). They are poor and food insecure.	Group of 6 people who develop and maintain the plot. Eating from the produce and seeing off excess.	• Organic principles observed and promoted • Not certified organic.	• Urban, informal • Daveyton, East Rand, Gauteng
	9 - Leeuwkop Prison Agricultural Programme	Farm labour as a form of community service for prisoners.	Prison agricultural programme. Vegetables and meat products produced on the property are channelled into the prison's feeding programme.	• Not certified organic but practice conservation agricultural practices.	• Urban, formal • Kyalami, Johannesburg, Gauteng
	10- Hlumelelisa - Non-profit organisation	Participants are inmates of the prison. They are not food insecure but may well be	Sentenced offenders, parolees and people at risk are trained in practical and	• Promotion of 'sustainable' agricultural techniques	• Urban, formal • Kyalami, Johannesburg,

	located at Leeuwkop Prison	when leaving the facility.	theoretical horticultural and earn AgriSETA accreditation through the process.	• Not certified organic.	Gauteng
	11 – Abalami Bezekhaya Projects	Participants are poor and food insecure. Some have other forms of income though this is one of their primary sources.	Usually co-operative groups.	• Organic principles observed and promoted • Not certified organic.	• Urban, informal • Multiple locations, Western Cape

Table 1: Criteria for choosing sites for extensive study phase in Gauteng (green highlighted cells indicate positive attributes that adhere to my criteria for study).

3.3.2 *Stage two – extensive survey research*

Based on the tabulated criteria (Table 1) I decided to focus the extensive, household survey stage of my research at the following sites:

- **1 -** the Indali Agricultural Project;
- **2** – the Winnie Mandela Project;
- **4** – the Bambanani Agricultural Co-operative; and
- **8** – Norah's Organic Gardening Project.

I chose these sites as they best fulfilled the abovementioned criteria being that they were all located in the urban or peripheral spaces of the city; production principles were focussed mostly on non-conventional methods; membership of the project was as a group and the group exercised some form of control over the activities; and members could be considered to be poor.

I administered 55 income and asset questionnaires at these projects and collated some contextual data on homestead makeup, income sources and asset ownership for 281 people. To begin with I decided to administer the survey at four projects to expand my data group. I considered these projects to be viable options for my intensive study phase and the survey would help to decide on which three to focus.

Development of the survey instrument was influenced by the NRF research group's focus on social differentiation dynamics, specifically, in relation to farming for purposes of social reproduction or accumulation. Group members were encouraged to ask similar questions within our different regions and areas of study. It was agreed that asking similar questions would

generate a substantial body of information that would contribute to discussion and insights into the programme's overall research focus.

I formulated descriptive tabulations based on the survey data that included a demographic profile for the project participants and their income profile (see Chapter Four).

3.3.2.1 *Sensitivities in providing income data*

At first, participants were hesitant to answer the income questions in my survey. My impression was that these questions would be difficult to answer due to the following: respondents were concerned that their fellow workers would be made aware of their actual income; that employers (where this was the case) would be informed of other sources of income, perhaps informal sector income ("black market"), that would be seen as a hindrance to their performance in their formal employment. I tried to address these at the outset by providing assurance of the private nature of the survey and of the importance of gathering accurate data to provide a fair representation of their situation. Respondents asked if I would help them or if the survey would contribute to some financial gain. Again I stressed the importance of the accuracy of data to possibly inform policy makers as to the true situation on the ground and to ways to improve these. This appeared to settle respondents and provide the incentive to contribute to the process.

3.3.3 *Stage three – mapping small-scale agriculture in Gauteng*

I followed the survey stage with a process of mapping small-scale agriculture in Gauteng. The exercise provided me with a better understanding of the different farm types in Gauteng, indicating the complexity of the agricultural landscape and alerting me to the difficulty of understanding such a diverse sector. The process also brought me into contact with more viable study sites, some that were more appropriate to my research focus, more so than were my previous four choices for study.

Through this process I could not find a single small-scale farm operated by urban and peri-urban poor people in the Gauteng region where organic certification had been attained. What I did find were community-controlled (though this would later prove to be not so simple a matter) plots where a mix of farming methods were utilised (conventional and organic). My original focus was on small-scale urban and peri-urban farmers or farmer groups that could access middle class

niche markets, specifically for organic produce. This mapping process along with advice from my supervisor brought me to terms with the fact that such farmers or farming groups may not exist. What I found in its place, were local government supported community projects – specifically support through the COJ's human development programme that was located within the Human Development Directorate. Each region of the COJ had a programme in place to support food garden projects. Social workers were assigned to community garden projects within their regions. In addition, the Gauteng Department of Agriculture and Rural Development (GDARD) extension officers were assigned to some of these projects. The support would include providing access to land, water, farming inputs, and financial incentives and backing.

Some of these projects were engaged in farming practices that appeared to be organic, though without the certification, but that were also survivalist in nature, where they would accept farming inputs based on the fact that they were free. Many of the groups I met spoke of their commitment to organic principles and the pressures of 'climate change' on our planet and farming systems but did not seem to be committed to these principles in practice. People reported making compost for on-site fertility management but when I asked to see the heaps all I found were small piles of garden rubbish mixed with plastic waste. It became clear that on these under-resourced farms there was limited practical knowledge of organic farming practices and that it was mere rhetoric, learned from prevailing populist urban discourses of 'sustainability' and 'the threat of global warming'.

Through this mapping process and after much deliberation I decided to change my research focus from an assessment of the prospects for the social and economic sustainability of small-scale organic vegetable production projects in Gauteng to an assessment of the prospects for sustainability for small-scale vegetable production projects in the COJ Metropolitan Municipality. I came to the realisation that my original enquiry and entry into the research process had been based largely on my own values for alternative agricultures and systems of self-sufficiency and sustainability, when in reality the urban poor who engaged in agriculture were actually driven by the need to survive, and not by agroecological ideals.

3.3.4 *Stage four – intensive phase*

In preparation for the intensive phase of my research I tabulated the projects that were of relevance to my revised research focus, based on the information uncovered during the mapping process. I adapted and added to the variables of the criteria table 1 to focus more on the realities of black, small-scale, urban and peri-urban farmers in Gauteng (as was explained in stage three above). The criteria used for this intensive stage were as follows: level of poverty and food security; producer's organisational dimension; production methods; value chain; and location. My criteria for choice of study sites would be:

- where producers could be considered poor and have some degree of food insecurity;
- where the organisational dimension of the project was based on communal ownership or management of the project;
- where the methods of production were in some way influenced by non-conventional methods;
- where multiple avenues were in use for produce distribution; and
- where the project was based in what could be considered an urban space or else peripheral to the urban in what could be termed the peri-urban space.

		Variables				
		Level of poverty and food security	*Producer's organisational dimension*	*Production methods*	*Value chain*	*Location*
Potential Projects	**1**- Indali Agricultural Project	Participants are poor and food insecure. Some have other forms of income though this is appears to be a primary livelihood.	Co-operative structure with 14 members (from the original 112)	• Organic principles observed and promoted though some members are becoming dissatisfied with these practices and are considering returning to chemical methods. Not certified organic.	On farm consumption by members and sales to community members. In addition, bulk sales are made to agents at the Vereeniging fresh produce market. Bakkie traders will collect produce when available.	• Peri-urban, informal • Kammaland AH, Vereeneging, Gauteng
	2 - Winnie	Participants are poor and food insecure. They rely	Co-operative with 12	• Permaculture principles used	Producer consumption and	• Urban, informal • Thembisa, East

	Mandela Project	on the weekly food delivery from the Pastor who coordinates the project. In addition, the gardens provide produce which contributes to their food security.	members.	• Organic practices observed and promoted • Not certified organic.	limited sales to local residents.	Rand, Gauteng
	3 - Wensleydale Farms	Middle class white farmer. Farmworkers earn a market related farm wage and live on the premises.	Private company.	• Strict adherence to organic practices • Certified organic (they themselves run a certification agency - BDOCA).	Operation has two pack houses, one for Pick n' Pay and one for a 'box-scheme' and the local farmer's market network.	• Peri-urban, formal • Doornrandje, Gauteng
	4 – Bambanani Agricultural Co-operative	Participants are poor and rely on the garden as a food source and income generator. Most participants have multiple survival strategies. The garden is one of these and contributes toward their food security and income generation.	Co-operative structure – 5 people on the committee. The most active worker hires a worker and pays him a daily cash sum of money.	• Organic principles observed and promoted • Not certified organic.	Producer consumption and sales to local community members (people returning home after their day of work in the city). Local farmers markets and more formalised markets are accessed on occasion.	• Urban, formal • Inner-city Johannesburg, Bertrams, Gauteng
	5 - REEA gardens	Middle class white gardener with some volunteer support. No one is food insecure in this project.	Participant can used space in exchange for provision of vegetables to the REEA centre. The garden hosts organic training sessions with varying audiences and receives voluntary labour through this process.	• Strict adherence to organic practices • Not certified organic.	Producer consumption and supply to the REEA centre.	• Urban, formal • Craighall Park, Johannesburg, Gauteng
	6 – The Curve Food Garden	Participants eat the produce and sell the excess. They depend on access to this space for a nominal income and a source of food.	A group of 5 people that work the garden, eating the produce, and selling the excess.	• Organic principles observed and promoted • Not certified organic.	Produce eaten by producers and sold when in abundance.	• Urban, formal • Observatory, Johannesburg, Gauteng
	7 - Siyakhana Food Garden Project	Workers receive monthly income that is paid through corporate funding. Workers are not	Wits University manages the programme. The space is used as a	• Permaculture principles used • Organic practices observed and	Produce distributed to community health care clinics and taken home	• Urban, formal • Bezuidenhout Valley, Johannesburg,

		considered food insecure.	training facility, adding significant financial value to the gardens. Produce is distributed to the Wits medical school clinics in the vicinity.	promoted • Not certified organic.	when in abundance.	Gauteng
	8 – Norah's Organic Gardening Project	Producers are from the local informal settlement (Barcelona). They are poor and food insecure.	Group of 6 people who develop and maintain the plot. Eating from the produce and selling off excess.	• Organic principles observed and promoted • Not certified organic.	Produce eaten by producers and sold to local residents and BONM.	• Urban, informal • Daveyton, East Rand, Gauteng
	9 - Leeuwkop Prison Agricultural Programme	Farm labour as a form of community service for prisoners.	Prison agricultural programme. Vegetables and meat products produced on the property are channelled into the prison's feeding programme.	• Not organic but practice conservation agricultural practices.	Produce eaten by inmates.	• Urban, formal • Kyalami, Johannesburg, Gauteng
	10- Hlumelelisa - Non-profit organisation located at Leeuwkop Prison	Participants are inmates of the prison. They are not food insecure but may well be when leaving the facility.	Sentenced offenders, parolees and people at risk are trained in practical and theoretical horticultural and earn AgriSETA accreditation through the process.	• Promotion of 'sustainable' agricultural techniques • Not certified organic.	Produce eaten by inmates.	• Urban, formal • Kyalami, Johannesburg, Gauteng
	11 – Abalimi Bezekhaya Projects	Participants are poor and food insecure. Some have other forms of income though this is one of their primary sources.	Usually co-operative groups.	• Organic principles observed and promoted • Not certified organic.	Produce eaten by producers and sold to Abalimi Bezekhaya.	• Urban, informal • Multiple locations, Western Cape
	12 – Youth Agricultural Ambassadors (YAA)	Participants are poor and rely on the plot for income and for supplementary food.	Co-operative groups at the different locations. All fall under the YAA.	• Organic principles observed and promoted • Question as to the extent of this knowledge • Not certified	Produce eaten by project members and sold when in excess to school teachers and local residents. Income from the different	• Urban, informal • Multiple locations in Evaton West and De Deur, Johannesburg,

				organic.	gardens is reinvested and distributed when possible.	Gauteng
	13 – Mtla Agricultural Project	Participants are poor and food insecure. All take piece-jobs when they become available. In season the produce contributes greatly to their monthly earnings.	Co-operative group with 5 members.	• Not organic • Use pesticides when necessary.	Producers consume but mostly sold to hawkers.	• Urban, formal • Roodepoort, Johannesburg, Gauteng
	14 - Mokobobo Farmers Association	Participants are poor and rely on the plot for the bulk of their food (exchange value, subsistence value and monetary value).	Co-operative group with 53 members, 6 of whom are active members.	• Trained in use of agroecological methods • Not sure they are entirely organic though.	Producers consume and sell to local people.	• Peri-urban, informal • Thembalihle, Johannesburg, Gauteng
	15 – Kwa-Phalo Agricultural Project	Participants are poor and rely on the plot for income and for supplementary food.	Group of 8 people in the process of forming a co-operative.	• Follow organic principles.	Producers consume and sell to local people. 30% of sales value goes to the school in exchange for use of land and water.	• Urban, formal • Meadowlands, Soweto, Johannesburg, Gauteng
	16 – Monaghan Farms	Participants are salaried employees.	A corporate venture.	• Third party certified organic.	Produce is sold in a box scheme to the estate residents with excess sold at Market on Main (weekly market in central Johannesburg)	• Peri-urban, formal • Lanseria, Johannesburg, Gauteng
	17 – Refilwe Agricultural	Participants are poor and volunteer on the property in exchange for lunch and some of the produce.	Volunteers with some permanent staff.	• Follow organic principles.	Food is used for the school and some is taken home by volunteers and staff.	• Peri-urban, informal • Lanseria, Johannesburg, Gauteng
	18 – Mawela Primary School	Participants and poor and rely on the garden produce as one of their main food sources.	Co-operative group with 5 members.	• They use minimal inputs but will take whatever they are given so will use chemicals if available and if necessary.	School given produce on a monthly basis. The rest is eaten by members and sold to passers-by.	• Urban, formal • Meadowlands, Soweto, Johannesburg, Gauteng
	19 – Hillbrow	One participant who maintains garden in	One participant.	• Follows organic	Producer consumes and sells when there	• Urban, formal • Hillbrow,

	Clinic	between doing IT work.		principles.	is an excess.	Johannesburg, Gauteng
	20 - Leshage's Farmer's Co-operative	Works at the JFPM. Also owns and runs a 4 hectare plot in Meyerton.	One owner with eight permanent staff.	• Conventional farming practices on 4 hectares.	Sells his produce to local residents from a road-side store (part of the farm/plot). Also sells excess to the JFPM.	• Per-urban, formal • Meyerton, Johannesburg, Gauteng

Table 2: Criteria for choosing sites for intensive study phase (green highlighted cells indicate positive attributes that adhere to my criteria for study).

Based on the data in Table 2 I decided to focus on the following three projects for the intensive phase of study:

- **4** – Bambanani Agricultural Co-operative;
- **13** – Mtla Agricultural Project; and
- **14** - Mokobobo Farmers Association.

These projects best reflected my research interest and I believed would provide a range of diversity of people, production methods, livelihood strategies, produce distribution channels and geographical perspective within the COJ. I chose to focus on projects within the COJ in order to become more familiar with the development rationale of one municipal authority and also to limit the distance needed to travel for fieldwork. These projects were interesting because they displayed both similarities and differences. The similarities included that they were all supported by the COJ, though to varying degrees, and that they had multiple distribution channels for their produce. They differed in their locations with some close to public transport and others out of sight of human traffic. In addition, they all appeared to be integral to the members' livelihood.

Bambanani is a state-supported project on approximately ½ a hectare of land in inner-city Johannesburg that provides a base for a diverse set of livelihoods for a group of Johannesburg's urban residents. Produce is sold to the informal sector through garden-gate sales and it is sold through more formal channels, to SPAR and at urban farmers markets. The project has used organic methods to produce and continues to do so, even under considerable production constraints that include limited capital investment opportunities, high rat populations as well as insect infestations.

Mtla Agricultural Project is approximately ¾ of a hectare of open plots at a COJ regional facility in Roodepoort, Johannesburg. Mostly chou-moellier (Kale or *Brassica oleracea var. acephala*) is grown and sold to hawkers though some smaller plots of vegetables are grown for own consumption. Pesticides are used to control aphid infestation and although alternative methods have been taught, these are not practiced.

Mokobobo is located in the South Western peri-urban portion of the COJ and is supported by the state. There are seven tunnels and open plot production on approximately three hectares of land. The civil society group supporting the project stated that only organic agricultural practices were used but during on-site observation I found that these principles were not entirely adhered to. Produce is sold to the local population and larger consignments are taken to the JFPM and to local market places.

3.3.4.1 *Participant observation*

In the first week of November 2011 I began the first of two six-week intensive programmes at each of my three sites. I asked each of the project heads if I would be permitted to work on their plot for one day of the week for a period of six weeks. They all agreed but to different degrees.

At Bambanani I would assist with weeding, seed sorting, and harvesting. Much of my time, however, was spent in the shade of a tree talking with project members. At Mtla I would assist with moving irrigation pipes, weeding, and planting. At Mokobobo, I did the most difficult labour work. The most back breaking activity was digging trenches along the perimeter of the plastic tunnel structures. The trenches were approximately one meter deep, half a meter wide, and sixty meters long, along both sides of one of the tunnels. This first six-week programme was spent mostly working in such a manner. Through these efforts I was able to gain the trust of key people at each of the projects. In so doing I also learned of the different sub-groupings within each group. While I may have gained some trust, I also stimulated some suspicion from people who were not in allegiance with the dominant power structures, insights which will be described in the project chapters that follow.

3.3.4.2 *Structured questions for project members*

During the final six-week round of visits I decided to put together sets of questions based on my research questions to help build a body of information relevant to my research focus. These included project specific questions on commodity chains (inputs; production; processing; transport and storage; marketing; and retail), organisational features (contributing to social and economic sustainability), and the long-term prospects for poverty reduction and livelihood creation and diversification.

3.3.4.3 *Structured interviews with stakeholders*

In addition to the structured questionnaire process with project members I undertook more structured interviews with relevant stakeholders including COJ's social workers, a regional assistant director, and the director of social development. From Region B (coordinating region for Mtla Agricultural Project) I interviewed Kedibonye[26] (assistant director) and Mr Maseko (community developer but also referred to as social worker); from Region F (coordinating region for Bambanani Agricultural Co-operative) I interviewed Eunice (community developer) and Constance (community developer), and from Region G (coordinating region for Mokobobo Farmers Association) I interviewed Tabang (GDARD extension officer for the COJ). These interviews provided some of the overall context within which to structure my observations and upon which to base my recommendations.

3.3.4.4 *Life histories*

I conducted life history interviews for three participants at each of the three sites. These interviews proved to be very useful for understanding the evolution of the livelihoods of each participant but also of the evolution of the project. I found that participants were eager to tell their stories and also that the process further improved my relationship with each member.

[26] As was explained in the methodology section the majority of the names are fictitious and have been allocated to respondents to protect their identities. However, some names are legitimate though only where the respondent was formally interviewed and where they agreed to being recorded.

3.4 Conclusion

In this chapter I described my journey through the research process and my evolution of thinking. The research design that incorporated extensive and intensive methods was described above, and will be evident in the chapters that follow. While the research process for this Masters project will soon come to an end, it is likely that my conceptualisation of the world around me will continue to evolve in future research projects and will deepen my understanding of the complexity of this area of study.

Chapter Four: Agriculture and multiple urban livelihoods in Gauteng

In this chapter I present some empirical data on agriculture and multiple urban livelihoods in Gauteng, comprising data culled from from the secondary literature and those that were collected during this study. As explained in Chapter Two, these data are a combination of intensive and extensive data that together provide a useful general overview of the social phenomena being studied. I include some detailed examples of different types of agricultural enterprise in the province. Taken together, the material in this chapter helps to locate my intensive case studies in their wider socio-economic context, and focus in particular on the importance of multiple livelihoods and extended social networks in urban and peri-urban contexts.

4.1 Agriculture in Gauteng

The GADS states that Gauteng's land area demarcated as farmland is "828 623ha[27] (44.2% of total land area of province) of which 438 623ha[28] (23.4%) is potentially arable … and 390 000ha is suitable to grazing" (GADS, 2006:9). The report goes further to state that "Gauteng province has about one sixth of all land suitable to agriculture in the country" and that "given the relatively speaking large potential in Gauteng, innovative land use planning strategies need to be found which balance the province's urban development pressures for housing and industrial development, with the need to conserve those lands which are suitable for agriculture (both, from a provincial efficient land use perspective in terms of rate of return of land, as well as from a national food security perspective)" (ibid). As much as 3.3% of the high and medium potential agricultural land is reported to be located in the urban edge yet only 16.4% of this land was cultivated, meaning that substantial potential exists for expanding production in the province (ibid), particularly in the peri-urban areas of the province.

> *"The estimated number of smallholdings in the province is between 18 000 and 21 000. However, only a few owners rely solely on the income they derive from agriculture. This means that most smallholdings* [do not realize] *their full agricultural potential...The average farm size in Gauteng is 140ha whilst that of a smallholding is 8ha. There are some commercial farms which are 2 000ha in extent. Agricultural land holdings belonging to the*

[27] Abstract of Agricultural Statistics, 2005, DOA.
[28] Ibid.

Gauteng Provincial Government (GPG) are approximately 20 000 hectares in extent, with individual holdings ranging from 2,5ha to 500ha. The GPG is in the process of disposing of all land that is not required for government purposes through the Gauteng Farmer Settlement Programme, which provides for a 3-year lease with an option to purchase" (ibid:9-10).

GDARD's 2009/2010 annual report (GDARD, 2009:78) documented their agricultural marketing support programme that had "entered into partnership for marketing opportunities regarding [the marketing] of agricultural products for [Small, Medium and Micro-sized Enterprises] SMME's agribusiness competitiveness. The main aim and objectives of the partnership [were] to propel 30 potential emerging farmers into mainstream agricultural economic participation." Of 63 projects/farms in contention only eighteen were nominated. Their mandate was to "consistently supply government institutions with vegetables (cucumber, lettuce, tomatoes, carrots, beetroot and potatoes) for a period of three (3) years as per [Gauteng Shared Service Centre[29]] GSSC specifications" (ibid).

The following criteria were used for selection:

- "Ability to consistently supply the required demands of vegetables;
- Prior experience regarding supply of vegetables to formal markets;
- Ability to produce vegetables at required quality;
- Understanding and adherence to HACCP requirements;
- Understanding and adherence to Agricultural Product Standards Act;
- Clear understanding of government tender process (from application to invoicing);
- Farms/Projects already registered as legal entities and complying with SARS regulations" (ibid).

This support initiative secured marketing contracts for eighteen so-called 'emerging farmers' who on a weekly basis supplied government institutions including hospitals and schools with vegetables. Produce was sourced from their own farms but also from farms in the region and from the Johannesburg Fresh Produce Market (JFPM).[30] Two of the 'emerging farmers' that

[29] "The Gauteng Shared Service Centre's core business is the provision of a provincial government-wide internal support service in terms of Audit Services, Human Resource Services, Procurement Services, Finance Services and Technology Support Services" http://www.gssc.gpg.gov.za/.
[30] http://www.joburgmarket.co.za/. Accessed: 4th February 2013.

were nominated, Lehlare Construction and Be Fresh Produce (see *Appendix II* for a list of the 18 farmers nominated) are referred to below as examples of school community gardens and smallholder farms respectively.

To provide a general picture of agriculture in Gauteng I have chosen to categorise the sector as follows: household gardens (including homestead gardens), community gardens (including school community gardens), smallholder farms, and commercial farms (see figure 1). These categories are simplifications of the reality on the ground as some of the groups could fit into any of the categories. I have chosen these groupings but acknowledge that they are not absolute.

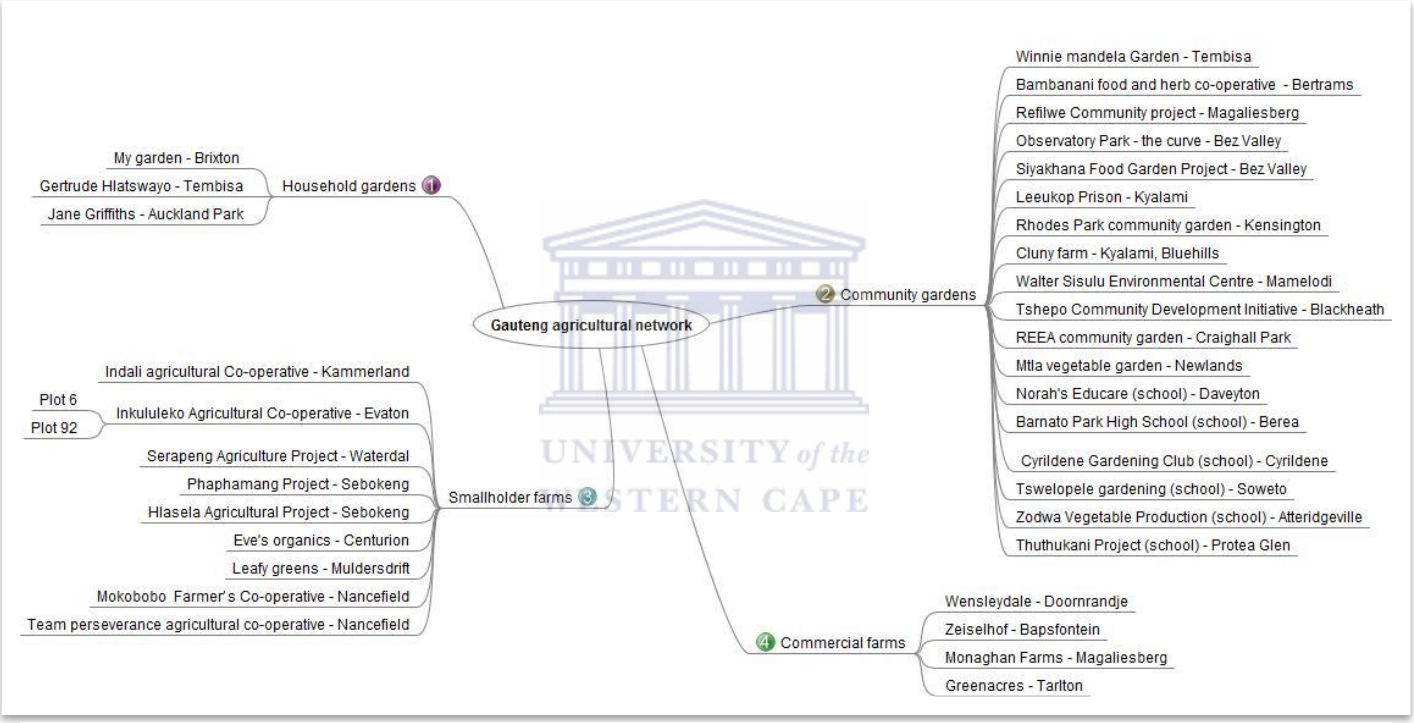

Figure 1. A depiction of agriculture in Gauteng

4.1.1 *Household gardens*

Household gardens are found alongside what are sometimes referred to as RDP houses (based on the South African government's post 1994 Reconstruction and Development programme – RDP – that aimed to house the population of the newly declared democratic Republic of South Africa) (Rogerson, 1996:167). These gardens are generally very small due to the small property sizes and limited extra space found around government regulation houses. Here one could find door size gardens but in some instances more substantial areas of planting. Swiss chard, kale, Chinese

cabbage, maize, beans, and pumpkins are some of the more common household garden plant types found but more diverse planting schemes are also observed with people growing fruit trees and creeping fruit varieties that cover their household fences.

Homestead gardens are generally larger than the household garden plot. These gardens are most commonly found in the rural areas of South Africa (for example in the former Transkei) on vacant plots found alongside the household (Lewis, 2006) and are not very common in Gauteng where there are limited vacant residential plots. Farmers utilise anywhere between $4m^2$ and $900m^2$ of their plots to grow maize, beans, potatoes, cabbage, Swiss chard, kale, and other plant types. Chickens, turkeys, goats, pigs, and cattle can be found on such properties. These animals provide meat, milk, and eggs (ibid). Homestead gardens are often run by the adult female who may also be the household head. She often saves some seed for planting but also buys seed from the local market or supermarket. Food produced is often used to supplement household meals and provides some of the nutritional requirements for household members. Any excess is sold, exchanged, or donated to neighbours and family members in nearby locations. Municipal water is used for irrigation but in some cases, rainwater, collected from household roofs, borehole water, or river water is used. Fertilisers are bought from the markets or local supermarket though compost is also used, made from household food and backyard animal wastes (ibid).

Household gardening also takes place in the middle-class suburbs of Gauteng. Plot sizes are generally smaller than homestead gardens, within the range of 4 to $500m^2$, and are maintained mainly by people who want to grow their own vegetables for health and/or ethical reasons and have the money and time to do so. As Woodhouse (2010:451) explains, "where non-agricultural income is very high, it provides an opportunity to treat part-time agricultural work for self-provisioning as a form of consumption choice (as, for example, in the case of middle-class urban residents renting municipal-owned 'allotments' to grow their own vegetables in the UK)".

I visited many of these 'middle-class' gardens during the research process. One example of such a garden is that of Carmen Wheeler. She has a $50m^2$ fenced off area of her garden where she grows different types of vegetables. She runs a morning nursery school and has the afternoons free to work in the house and garden, and to look after her children. "I want to buy fewer vegetables from the shop and I just love being able to grow my own food" stated Carmen. "I

don't know where Pick n' Pay vegetables come from and I can't afford organic, so I produce my own", stated another respondent. Some of these gardeners saved seed, maintained compost heaps and worm bins (for collection of vermiculite), and followed biodynamic planting calendars and attributed these practices to the success of their gardens. Some of these gardens teem with pollinators and predators that all play a role in maintaining equilibrium in the garden and reduce the need for pesticides, fungicides, and herbicides. As REEA gardens trainer Daniella pointed out, "the Aphid has a parasitic wasp that preys on it. Finding ways to rid your garden of Aphids is not necessary when we allow the wasps to return and do what nature intended."[31]

4.1.2 *Community gardens*

Many community gardens are set up by church groups, charity organisations, NGOs and local government bodies (see figure 1). These projects are often linked to welfare programmes that support community feeding schemes, such as soup kitchens and food parcel hand-outs. Garden infrastructure is often donated and water is either subsidised or is provided free of charge. Tools, seed, and other garden inputs can also be donated. The membership of these programmes is usually highly informal though they can also comprise of formal structures such as co-operatives and associations. In some cases garden produce is sold to local residents who pass by the project. The balance is often taken by project members and given to the organising body (the church or local government kitchen – dependant on the organisational setup).

A good example of a community garden project is the Winnie Mandela garden in Thembisa. This garden was supported by Mr David Bayles from the Randburg Methodist Church. David explained how he had made an agreement with the members working the gardens, almost all of whom were women, that in exchange for their work in the garden, they would get a weekly supply of vegetables, fruit, and bread sourced from various food retail outlets (fruit and vegetables mostly from Spar and bread items from Pick n' Pay). All items were over their sell-by dates and would have been thrown out by the retailers or given to another charity group if not taken by David. David collected and delivered the items every Tuesday when members would line up to sort through what he had brought. David was very clear, however, that only the members who had worked in the gardens could receive the food and it was mostly for this reason

[31] Personal correspondence with Daniella Alexander, REEA gardens, 30 September 2010.

that there was some productivity. Most of the members were elderly (many who received a pension) and some were not well (on disability grants) and it was clear that they were doing just enough in the garden to gain access to this weekly food donation.

The Tshepo community development initiative in Blackheath, Johannesburg, provides another example of what I have classified as a community garden. At Tshepo one would almost always find homeless people sleeping in the shade of the trees. Many sought refuge for the night and the morning soup and bread (Mondays, Wednesdays, and Fridays at this project) that were provided through donations from the Union church who supported the initiative. This meal constituted the main source of nourishment for many of the project participants as well as for the homeless people in the area. Project members grew vegetables next to the church hall on a plot of approximately 900m^2. The area was covered with shade cloth but was still vulnerable to damage from rats and birds. Tomatoes, spinach and cabbages that survived the harsh urban conditions were sold to the local fruit and veg store and provided some participants with an irregular source of cash. The bulk of the produce, however, was not sold and was instead taken by the project members for home consumption.

Most school community gardens appear to be set up and supported by company CSI programmes. Some companies have their own in-house CSR personnel who implement various development programmes. Mostly, however, NGOs specialising in specific forms of community development are contracted to coordinate and implement a company's CSR requirements. A popular development initiative is School Gardens. One aim of such a programme is to develop a garden on school property that provides fruit and vegetables as a supplement toward the school feeding scheme. Another aim of such an initiative is to create a livelihood option for community members living in the vicinity of the school. Membership numbers tend to range from between 1 and 20 but this is highly variable as members have a tendency to leave the project if they find more lucrative work elsewhere. Members can make money from sales of produce but more often benefit from the food they take home after a day's work in the garden. When money is made it is generally used to purchase input requirements such as seed, fertiliser and tools. In some instances it would be paid out to members.

The NGOs that set up these projects require that project members sign a constitution and in some cases develop a business plan, both of which contribute toward the potential for sustainability of the project. Training is provided in composting, soil fertility management, and natural pest management. It is for this reason that, where teaching and training have had a positive impact, fertilisers and pesticides are not necessary and additional input requirements are few. Seed and seedlings are often requested from the NGOs and water is provided free from the school in exchange for some of the produce.

FTFA is a well-known NGO that has a strong media presence and provides a good example of an NGO that promotes school and community gardens. School garden design is implemented by FTFA facilitators who have permaculture design knowledge and experience. Template constitutions, adapted for the specific project, are signed by participating community members and in so doing provide a form of accountability for the tools and planting materials purchased for the project. At the end of the contract between FTFA, the company providing CSR funds for the project, and the school a report is generated that provides a description of the work done, the progress made and the proposed way forward for the project. In many cases community involvement dwindles once NGO support is complete and school gardens will be neglected, returning to their former states. In some instances, however, particularly where school gardeners have been trained in the permaculture techniques and where the school authorities have included the garden in their work programme responsibilities, the garden will flourish and food will continue to be produced and distributed.

Swartkop Valley school garden is an example of one of a successful CSR supported community project. On the 3rd September 2010 one hundred and thirteen volunteers from Japan visited the school to help them to improve their food garden by designing more beds, planting seedlings, and building compost beds. The Swartkop Valley Primary School developed this food garden with funding received from SASOL and, later on, from Woolworths. FTFA had provided Permaculture skills training support and materials for this school since July 2006 and their gardens were revered as the showcase school food garden project. The Japanese volunteers were on a tree planting and food gardening goodwill mission to South Africa coordinated by the 'Wonderful World Tree Planting Festival' (WWTPF), a Japanese based organisation, and FTFA.

Another school project that can be considered successful is the Thuthukani Project (registered to the GSSC as Lehlare Construction) located on 2300m^2 of land at the Khuthala Primary School in Protea Glen, Soweto (see figure 2). Three members, Karabo, Sam (husband and wife), and Lorato, work at the project. Occasionally they will hire labour at a rate of R40 to work from 8:30 am to 14:00 pm). The project began in 2005 with 20 members where they planted and sold to the local community. They would also sell to the JFPM and would hire a bakkie to transport the produce. This was not very lucrative so they looked to alternative markets. In 2009 they were awarded a three year tender contract with Tara Hospital to supply them with fresh fruit and vegetables. Karabo reported earning R12 088 gross per month, R4 000 of which was profit (Karabo and Lorato earned R4 000 per month through the contract with Tara Hospital). In 2010 they reported depositing R40 000 into an Advantage Money Market account. They had been granted access to the land by the school in exchange for some of the excess produce. The contract with Tara Hospital was facilitated through the DTI and the GSSC (Gauteng Service Support Centre) with the support of their extension officer Percy. Karabo noted that Tara Hospital would assess them three times over the three year contract period. They had been negotiating support from DTI to develop a pack-house but had not at that stage been successful. They had a container office, two large 15 000 litre water tanks (fed from their borehole), and a drip irrigation system. They source produce from their plot, neighbouring farms (mostly from Zeerbekom), and from the JFPM. Their produce includes: marrow, onion, butternut, green pepper, carrots, potatoes, cabbage, tomatoes, spinach, and cucumber. Each Tuesday they hire a cold-truck and pick up produce which they then deliver to the hospital.

Figure 2. Thuthukani Project at Khuthala Primary School in Protea Glen, Soweto

4.1.3 *Smallholder farms*

Smallholder farms commonly take the form of co-operatives and individual profit-driven ventures. In some cases co-operatives have been set up where land reform through restitution (historical redress) or redistribution (redress of skewed ownership justified on economic grounds) (Hall, 2010:179-180) has taken place. Co-operatives have been promoted as an effective way to manage large-scale land reforms that function as farming enterprises.[32] The Co-operative and Policy Alternative Center (COPAC)[33] is a support institute that assists co-operatives with business development and information services. Their latest online publication reported 15 agricultural co-operatives in Gauteng province.[34] The support offered here is of great benefit to the co-operatives as they often lack the business expertise that is integral to the success of these programmes. Where no support is provided, individuals have been found to take on leadership and guidance roles.

The Indali agricultural co-operative in Kammaland is an example of a co-operative where an individual has taken on a leadership and guidance role and sought alternative avenues of support for the benefit of the co-operative (interestingly this project is not recorded as one of COPAC's fifteen listed co-operatives). The managing director of the co-operative, Mothibedi, sought and

[32] Interview with Vishwas Satgar: Director of the Co-operative and Policy Alternative Center, 7 March 2011.
[33] http://www.copac.org.za/. Accessed: 2nd October 2012.
[34] http://www.copac.org.za/files/Gauteng%20Cooperatives%20List.pdf. Accessed 2nd October 2012.

received financial support through NGOs and the National Development Agency (NDA).[35] These institutions provided assistance in the form of training programmes, labour (in the form of the Expanded Public Works Programme), infrastructural support (road development, drilling boreholes and fence construction), large-scale animal inoculation programmes and input supply assistance. From April 2009 to April 2010 the co-operative sold produce (spinach, tomatoes, and Serano chillies) to the JFPM and indicated a gross turnover of R15 715.[36] These were not significant financial gains and were largely the result of their inability to supply regular and uniform produce. Most of the produce was therefore sold to local community members who visited the farm on their way to or from work. The co-operative made use of organic farming techniques but was not certified due to the excessive certification costs. In addition to this, they lacked the knowledge required to increase yields as did other more resourced and experienced organic farmers. Ultimately they could not sell their produce at a premium as organic produce and sold it as normal commercial produce. Raw milk from the co-operative's eight dairy cows was sold to people living in the vicinity of the project as well as to the members and their families. Hawkers who sold produce at taxi ranks and next to the road also bought from the farm, creating further livelihood opportunities for the community's entrepreneurs and sales for the project. Mothibedi noted that profits were divided between the members but that a portion was always retained for reinvestment into the project (no actual records or income amounts were provided).

Individual profit driven ventures are usually run by an entrepreneur who pays wages to a labour force and invests in farm assets. The venture is generally profit driven and attempts to reach some economies of scale similar to what is found on large-scale commercial farms. The B Fresh Connector venture is an example of such a project. The owner, Mr Godfrey Leshage, farmed vegetables on 4 hectares of land in Meyerton and sold to the JFPM. Produce was also sold at the store front that faced onto the road side of his property (see figure 3). In addition produce was bought from the JFPM and sold at this shop (R23 bag of potatoes bought from the JFPM was sold for R25). Raw milk was bought from local farmers for R3.75 a litre and sold at R4.50 per litre. Godfrey hires 8 permanent workers at R70 per day. In season he hires up to 25 people. In

[35] http://www.nda.org.za/. Accessed: 4th February 2013.
[36] Personal correspondence with Mothibedi, 01 September 2010.

a heavy rainy period of 2011 he noted that he lost 40 000 head of cabbage and 60 000 bushels of coriander.[37]

Figure 3. Mr Godfrey Leshage outside his farm stall in Meyerton

4.1.4 *Commercial farms*

The final type of agriculture found in Johannesburg is large-scale commercial agriculture. In general, these ventures attempt to attain economies of scale through intensive use of mechanisation, land, and water resources. Farmers follow highly efficient and regimented production and harvesting programmes and employ managers to operate these and to coordinate the farmworkers. In addition, agrochemicals are used to maintain fertility, control pest and fungus outbreaks and to eradicate weeds. Monetarily commercial ventures are highly efficient operations (Roberts, 2009:247) that succeed largely due to their scale of production rather than from their productive efficiency. In most cases unskilled labour is paid the minimum wage contributing further to profit maximisation. Distribution channels are efficient and dependable and result in successful relationship building with retail as well as market networks (national and export). Relationships are also strong with input suppliers of agrochemicals and seed, with genetically modified organisms contributing to less labour requirements at least for the short term.

[37] Farm visit to Mr Godfrey Leshage plot in Meyerton, 11 March 2011.

Some larger commercial ventures do engage in what could be termed 'sustainable' agricultural practices. Agrochemicals are still used but to a lesser extent than on some of the commercial farms referred to above. One major change for such farmers, and a contributing factor to their decreasing use of agrochemicals, is their use of shallow-till and in some cases no-till approaches as opposed to commercial deep-till techniques. These techniques can be deemed to be more 'sustainable' due to their ability to maintain soil structure and encourage natural soil building processes. The soil structure facilitates water penetration, spread and, as a consequence, conservation. In addition it reduces water run-off, topsoil loss, and general erosion. The South African retail sector, in particular Woolworths through their 'Farming for the Future' programmes and also Pick n' Pay through their 'Patch per Store' initiative are driving this 'sustainability' initiative. While it appears to be pushing large commercial agriculture in the right direction there is not much confidence in the efficacy of this sustainability movement particularly from within the South African organic sector.[38]

A very successful organic commercial farming operation is Wensleydale Farms[39]. Wensleydale supplies organic products to all segments of the market including to Pick n' Pay's organic division, to local alternative markets (including to Bryanston Natural and Organic Market and Fresh Earth[40]), to their own box scheme initiative, and to export markets. The farm is only on three hectares of land but is disproportionately productive. Most of their products, however, come from other organic farms in the region and they merely package and distribute to their markets under the Wensleydale certified label.

Although important for some residents, agriculture provides relatively few livelihoods in Gauteng, South Africa's most urbanised province, and in Johannesburg in particular. The next section considers the range of other livelihood strategies pursued by urban residents in these contexts, with which agriculture is often combined.

4.2 Multiple urban livelihoods in Gauteng

Between 2002 and 2010 there was a 31 % decrease in agricultural employment in Gauteng (GPG, 2012:44). This mirrors declines of a similar magnitude at the national level; Hall

[38] Insights taken from organic sector meetings, 14 October 2010 and 06 November 2012.
[39] http://www.wensleydale.co.za/. Accessed: 4th February 2013.
[40] http://www.freshearth.co.za/store/. Accessed: 4th February 2013.

(2010:175), for example, documented a decrease in white commercial farming units in South Africa from 60 000 to approximately 45 000 in 2005. Many of these farms were consolidated to form larger individual holdings that often relied more heavily on technology and less on labour. The decrease in agricultural employment in Gauteng could be related to this phenomenon.

Overall employment levels in the COJ have also decreased considerably during this period. This reflects not only a decrease in the agricultural sector but in general employment levels in the city. "For the second quarter of 2008, the unemployment rate in [the COJ] increased from 22% to 26.1 %, this further increased in the second quarter of 2012, reaching 31.4%" (GPG, 2012:62).

In order to survive, individuals and households make strategic decisions on what livelihoods to pursue. In Gauteng, as in other parts of the country, these decisions are not always only based on the individual's needs. Du Toit and Neves (2009:3), describe two key phenomena that assist in shaping these decisions that provide the security not only for the individuals themselves, but also for their extended household networks and dependents. The first is their dependence on "the complex, spatially extended, de-centred social networks created in the context of domestic fluidity and porosity of continued migrancy" (ibid). The second is that "networks are partly made up of – and provide the underpinnings for – deeply sedimented and culturally specific discourses and practices of reciprocal exchange" (ibid). These networks help to distribute shocks (death, illness, job loss and others) but also opportunities in order to limit the burden for individuals within that network. The authors note that "these networks can alleviate poverty and vulnerability. But they can also erode resources, transmit economic shocks over vast distances, and can frequently involve highly unequal and exploitative forms of exchange" (ibid).

From April in 2011 to March in 2012 out of a total of 829,408 work opportunities created by the EPWP, Gauteng accounted for 14 % of this amount (GPG, 2012:55). This provides some insight into one government mechanism to increase temporary employment for the unemployed in the country and one further strategy that individuals can engage with for improving their income generating capacity and their general well-being.

In urban and peri-urban spaces of South Africa residents tend to adopt a multiple livelihoods strategy within their daily existence. Similarly to rural livelihoods, these urban and peri-urban strategies tend to combine farming and other sources. While farming is not as prominent in the

urban setting, where it is practiced, it contributes to these strategies, some more than others. Assessments of these farming activities may provide reports of minimal impact, particularly from an economic standpoint where small measurable benefits are reported. What is important to take note of is the fact that informal farming activities may provide seasonal benefits that if considered by themselves, may not amount to much. However, if considered along with the other livelihood activities engaged with, as well as will undocumented support mechanisms (reciprocal exchange etc.) , one will find that they contribute positively to these individual strategies and should be further supported.

4.3 Demographic profile, income sources and assets of households involved in selected urban agricultural projects in Gauteng

Here I provide some demographic data accumulated through the means of the income and asset survey as a component of the extensive phase of research process. I include data on general demographic characteristics of the sample groups, household size, marital status, income sources and asset ownership, and compared some of these with StatsSA community survey 2007 data for the Johannesburg Municipality to provide some wider perspective.

Table 3: Description of demographic characteristics of project members interviewed for the study in 2011 (n=55)

Variables	**Urban**	**Peri-urban**	**Peri-urban Non-members (EPWP)**	**Total**
Members who completed survey	14	11	30	55
Gender – n/N (%) *male* *female*	 5/14 (35.7%) 9/14 (64.3%)	 9/11 (81.8%) 2/11 (18.2%)	 5/30 (16.7%) 25/30 (83.3%)	 19/55 (34.5%) 36/55 (65.5%)
Age – mean (median); *Minimum* *maximum*	49.93 (49.5) 27 75	54.9 (59) 26 74	40.8 (41) 20 59	45.8 (47) 20 75
Household size – mean (median) *Minimum* *maximum*	5.7 (5.5) 1 10	6.1 (5) 3 14	4.5 (4) 1 9	5.1 (5) 1 14

Source: Income and Asset survey (see *Appendix III*)

Table 3 provides a basic overview of the demographic characteristics of the project members who were interviewed during the extensive phase of this study. While it is drawn from a small sample it does provide some context from which to frame the intensive components of the research.

The survey was completed by 55 people of which 25 (45.5%) were project members. 30 of the 55 (54.5%) respondents were EPWP workers from Indali Agricultural co-operative[41]. 14 (56%) of the 25 project members were from urban areas and 11 (44%) were from peri-urban areas. In total 41 participants (74.6%) - members and non-members - completed the survey in the peri-urban areas. This variation in number can be attributed to more members working on the larger peri-urban plots than on the more space-constrained urban ones. It may also have been due to more non-agricultural working opportunities in urban spaces than in peri-urban spaces. It was indeed the case that the plot sizes of the peri-urban projects surveyed were larger and required more labour to maintain.

Of the 55 respondents surveyed 19 were male and 36 were female, or 34.5% and 65.5% of the sample. This seems to suggest that females are more active in the smallholder farming sector in Gauteng. However, the sample may be skewed as 25 of the 30 EPWP workers were female, which could be due to the programme's focus on employing targeted groups that include women and female-headed households (DOL, 2002).

Project members tended to be older than the temporary EPWP workers with a median age of 49.5 and 59 years for urban and peri-urban respondents respectively and 41 for EPWP workers. The median age of the entire sample was 47 years, though this again may be somewhat skewed by the large number of younger EPWP workers that took part in the study. Even so, this data would suggest that more middle-aged people are taking part in community agricultural projects and not only pensioners as some might suggest. The overall median household size was 5 people with a maximum of 14.

[41]The farm's managing director, Mothibedi, secured a fifteen-month contract through the Department of Public Works (DPW) that provided the 30 respondents with a monthly cash income of R1000.

Table 4: Description of household size by groups and marital status project members interviewed for the study and for black respondents of the StatsSA Community Survey 2007 (City of Johannesburg metropolitan - JHB Metro) (n=46 986)

Variables						**Total**
Survey	**Income and Asset Survey**					**JHB Metro**
Total that completed the survey	n=55					n=46 986
	Urban n=14	**Peri-urban** n=11	**Peri-urban Non-members (EPWP)** n=30	**Members** n=25	**Total** n=55	
Household size by groups - %						
1	7.1	0	6.7	4.3	5.5	21.1
2	7.1	0	10.0	4.3	7.3	21.2
3	7.1	27.3	16.7	17.4	16.4	18.6
4	14.3	9.1	23.3	13.0	18.2	14.5
5-9	57.1	45.5	43.3	47.8	47.3	23.0
>10	7.1	18.2	0	13.0	5.5	2.0
Marital status - %						
Never been married	58.9					72.4
Married under customary law	13.1					8.3
Married in church or magistrate's court	13.7					14.2
Divorced	3.4					1.4
Separated	1.7					0.7
deceased (widow/widower)	9.1					3.1

Source: Income and Asset survey and Stats SA Community Survey 2007 for Johannesburg Metropolitan (JHB Metro). Marital data includes all household members over the age of eighteen.

Table 4 provides additional household size and marital status data, and compares these with statistics for black respondents of the COJ's StatsSA Community Survey of 2007 (JHB Metro).

When comparing the two data sets we find that the JHB Metro sample indicates a larger proportion of the population (42.3%) to have two or less household members. The members' interviewed in this study indicated fewer smaller households with only 12.8% having two or less members. Equally divergent were the members with greater numbers of household members, 52.8% having more than five while for the JHB Metro survey it was only 25% of the population.

The marital comparisons were reasonably congruent and indicated that between 58% and 73% of the COJ's black population (over eighteen years of age) had never been married.

Table 5: Description of income sources, assets , and home gardens of project members interviewed for the study (n=55)

Variables	**Urban** n=14	**Peri-urban** n=11	**Peri-urban Non-members (EPWP)** n=30	**Total** n=55
Number of income sources – *mean (median)*	3.0 (2.5)	4.4 (4.0)	3.6 (4.0)	3.0 (3.6)
Minimum	1	2	1	1
maximum	7	10	8	10
% income sources as grants (composite) – *mean*	18.5	60.8	40.6	39.0
Number of assets per household – *mean*	4.7	7.3	5.5	5.7
Minimum	1	3	2	1
maximum	13	11	14	14
Number of gardens per household – *mean*	0.5	0.5	0.5	0.3

Source: Income and Asset survey (see *Appendix III*)

Table 5 provides some insight into the household's access to income, their asset ownership, and whether they have a home garden. South African households tend to have a number of diverse livelihoods to support them through shocks and misfortune (du Toit and Neves, 2009). The median number of income sources for the entire sample was 3.6 with the maximum of ten and a minimum of one. This supports a multiple livelihoods theory where households have a number of income sources that they could fall back on during difficult times. Sharing and exchange also take place and are equally if not more important for household security. This survey was not able to capture these mechanisms and networks of support though it is important to note them to set the context for the analysis chapter.

Interestingly, a large component of a household's cash income is derived from social grants. The percentage of the household's incomes that is a grant was calculated and the mean taken of these percentages. The mean of the calculated percentages for the sample was 39.0%. This was higher for peri-urban households that had a mean value of 60.8% of their income sources coming from grants. A smaller proportion of 18.5% was found for the urban households. This could be attributed to the urban space having younger households or else having more opportunities for

earning extra income limiting the need for the grant or not fulfilling the means test criteria for most grants.[42]

Households had a mean value of 5.7 assets[43] per household with a maximum of 14 (see *Appendix III*). Urban and peri-urban households had marginally different mean values having 4.7 and 7.7 respectively. Food gardens were only found in a third of the households with most respondents indicating that their properties were too small to have a garden and to grow food. This finding is consistent with other studies that stated that in some of South Africa's major cities, "little food production [was]… taking place at the household level" (Frayne et al. , 2009:25).

4.4 Conclusion

This chapter provided an account of the wider context within which UPA community projects in Gauteng province operate. Empirical data collected during the mapping stage of this research project was used to compile the section on agriculture in Gauteng and included some nuanced accounts of the sector providing some insights into the types of agriculture found in the region. This was followed by a note on multiple urban livelihoods in Gauteng which provided a context from which to understand the diversity of livelihoods that urban residents take part in just to survive in the urban environment. Finally I provided some demographic data gathered through the extensive research phase in order to sketch a background to the projects and their members. This extensive analysis provided some general depictions of the living conditions in the study sites. Interestingly there were found to be mostly middle-aged people working in community agricultural projects and not only pensioners, as is often suggested. This would mean that these members as individuals were somewhat reliant on these projects as they could not depend on old-age grants. For the household, however, the median of 3.6 income sources meant that there were support structures that an individual household member could fall back on when times were hard. While the provincial indicators for household size showed small households, the survey indicated that 52.8% of households had more than five members and further pointed to household support structures that relied on multiple survival strategies.

[42] See grants criteria at http://www.sassa.gov.za/ABOUT-SOCIAL-GRANTS/TYPES-OF-GRANTS-644.aspx
[43] These included a combination of domestic, electronic or communication, transport, and agricultural assets all of which would provide some indication of the relative welfare of the household.

Chapter Five: Bambanani Food and Herb Co-operative

In this chapter I describe and analyse an urban agriculture (UA) community co-operative, Bambanani Food and Herb Co-operative (Bambanani), located in the Johannesburg inner-city suburb of Bertrams. The co-operative had five members and grew vegetables, fruit, and herbs that were sold through local retail outlets, crèche groups, and pedestrians who passed by the co-operative on a daily basis. I focus on its history, how it was structured, production and marketing strategies, the contribution of the co-operative to the livelihoods of its members, and organisational dynamics and tensions. I then assess the wider significance of this case in relation to South African urban poverty, livelihood strategies, and food security.

5.1 Location and background

Bambanani[44] was located on approximately 6500 m^2 (0.65 hectares) of land in Bertrams, Johannesburg (see figure 4). The space was previously used for recreation as a bowling club. The former bowling club's clubhouse had been converted into office space for the COJ's Human Development programme staff working within Region F of the city. Some of the projects coordinated by Region F were located within the building and included a sewing co-operative, baking project, and soup kitchen project. In addition to these, people used the facilities for various entrepreneurial activities including preparation and selling of multipurpose cleaning liquids (packed from bulk containers and sold at marked up price) and of the food condiment achar (prepared from a variety of ingredients and packed into plastic containers for resale). The site provided a base for a diverse set of livelihoods for some of Johannesburg's urban residents.

The former bowling greens were used by Bambanani for growing a variety of fresh produce. Additional pieces of open land surrounding the greens were also used for growing produce. This produce was sold mainly to the informal sector through 'garden-gate'[45] sales, and some was sold through more formal channels such as to SPAR, Fruit and Veg City, and at urban farmers' markets. The co-operative used organic production methods despite the considerable production constraints that they face: limited knowledge of organic principles, limited access to capital, constrained access to transport, and seasonal insect infestations.

[44] Meaning 'standing together'.
[45] This would usually be referred to as 'farm-gate' sales.

Figure 4. Arial view of Bambanani

There are different accounts of the history of the project, but the following is a summary that is consistent with most of the interview material I was able to gather. In 2006 the lower bowling green was offered to a crèche group to grow vegetables that could be used to feed the children they were caring for. In 2007, Peter joined with this crèche group to form the first formally constituted group at the site. Rajesh joined shortly thereafter. Of all the people who joined the group at that time only Peter and Rajesh were still members during this research period. The original members had been drawn in by the illusions of regular stipends and capital support from government and when these did not materialise they all left the project. Janette, Gladys, and Margaret all joined the group in 2009 to make up the five member quota that was a requirement of the co-operatives amendment bill of 2005 and to register as the Bambanani Food and Herb Co-operative.

According to Janette, she started working at the garden in 2008 when the crèche group who had been using the space failed to make a success of the project. She had been visiting the COJ's site offices to attend meetings for her own crèche group and after a number of discussions with Constance, the COJ Operations Manager based at the site, she was given the opportunity to join with the remaining crèche members to try to make a success of the project. She did so well that

in 2009 the garden was awarded second place in the Mma-Tshepo Khumbane (MTK)[46] competition and received a cash prize of R10 000. It was after this success that Constance suggested and facilitated the registration of the Bambanani Food and Herb Co-operative through the Department of Trade and Industry (DTI). This success also resulted in a decision being made to increase the area allocated to Bambanani for gardening. Previously only the bottom of the two former bowling greens had been utilised and this was now increased to include the top green as well. Once this was established, even more open land surrounding the greens was allocated to Bambanani for their agricultural endeavours. Since then the space has been used for production purposes during the spring and summer months and left to rest over the late autumn and winter periods, meaning that it was in use for approximately eight months per annum. The continued efforts of the co-operative members resulted in the project taking first position in the 2011 MTK[47] award ceremony winning R20 000 that has provided the capital security needed for further purchases of resources.

While 0.65 hectares would be considered small in a rural context, it is in fact quite large when compared to what is normally available in urban areas. The space was intensively cultivated with all open spaces utilised for vegetable production. Along with great crop diversity was significant abundance, with fruit trees enclosing the entire garden perimeter. Watering was carried out with garden hoses and basic garden sprinklers that used municipal water from taps on the site. The irrigation system was manually operated and sprinklers had to be moved between sections of the garden by hand, which was extremely time-consuming. All land preparation, planting, and harvesting was done by hand and required a considerable amount of labour.

Rajesh was previously chairperson of the co-operative, though had changed to occupy the position of secretary. He had stepped down as chairperson because he wanted to remove himself from the day-to-day demands of organising the co-operative. Peter had told me that Rajesh needed cash, and that his involvement within the co-operative space had not allowed him to make the cash he required. In 2008 Rajesh was given permission to plant his own sections of the garden and to benefit from this space as he wanted. The standard co-operative model, in which

[46] This Mma Tshepo Khumbane (MTK) award was awarded for the "Best Community-Based Natural Resources Management (CBNRM)" http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=5135&tid=5280
[47] See the following website that contains the listing of prize winners for 2011 http://www.gautengonline.gov.za/News/Pages/Gauteng%E2%80%99screativeagriculturalentrepreneursawarded.aspx

all members have equal access to resources and benefits, had thus been amended to a model where certain members were given access to certain resources, with others still operating according to the original co-operative dictates. Rajesh planted types of vegetables and herbs based on their market demand and he took the full financial benefit from what he produced. While he made regular sales to various retail outlets he also made sure to take produce home to his family. His produce was in such demand that he had to negotiate extra land for gardening outside of Bambanani's allocated space, specifically on the grounds of the neighbouring cricket club. Rajesh had a part-time job at the cricket club, offering coaching sessions twice a week, for which he earned R100 a session. Through his relationship with the club he was able to gain access to the extra space and thus the potential for increased income.

Gladys, the fourth of the five co-operative members, would join Janette at the site on a Saturday morning to assist her with the morning crèche she ran for local and what she called "disadvantaged" children. Gladys ran her own week-day crèche and only spent time in the garden on those Saturday mornings when helping with the crèche, for meetings convened by the COJ regarding crèche affairs, or else when visiting Janette to collect vegetables. Gladys had a strong alliance with Janette that provided some support for Janette within the co-operative group.

Margaret, the fifth member of the co-operative, was referred to by Janette as "the problem with the co-operative". Margaret was Constance's daughter and it was implied on many occasions that she was registered as a member of the co-operative only as a placeholder for Constance to gain access when she retired. Constance was to retire in September 2012 and Margaret would provide support for her to be accepted as a member of the co-operative. Margaret kept the financial records of the co-operative and was held in high regard by Peter and Rajesh. I was told that she worked at the University of Johannesburg as a public relations officer and that it was very seldom that she would visit the garden.

5.2 Early observations and impressions

At first, the people I met at Bambanani were not very welcoming. I visited the site many times and emailed COJ representatives even more times before I was able to gain access to the site. By access I mean an agreement that I could research the project and report on it for my thesis. During my first visits I engaged mostly with Peter. He introduced himself as the chairperson of

the co-operative and Janette as the treasurer. He noted that Gladys was the vice-chairperson, Rajesh the secretary, and Margaret the deputy-secretary.

During my first encounter with Peter he wore green overalls and was on the opposite side of the palisade fence at the cricket oval. He explained that he worked as a grounds man at the neighbouring cricket club and worked at the project after hours, and sometimes during his lunch period. When I asked if I could conduct research at the project he suggested that I have a formal meeting with his supervisor. On the 13th September 2010 Peter introduced me to Eunice, the 'community development officer' (southern Johannesburg – Region F) for Food and non-financial security within the Human Development programme of the Human Development Directorate. Eunice indicated that I would have to get permission to do research at the site from her superiors. She referred me to Mohammed, a regional manager, who in turn forwarded my request on to Human Development Directorate's deputy director, Ms Katrina. After a number of reminders I was eventually given permission to conduct research at the site.

The next challenge I faced was gaining the trust of the group. This I planned to do in the first six-week period of my intensive research phase. During my initial visits I had gained the trust of Janette. Of the members, she was the one who was always present in the garden and would therefore be the person I engaged with mostly. There was another man, Bongani from Mozambique, who was also always present and who appeared to be the one who did most of the heavy labour such as digging water trenches and weeding. He could not speak English but greeted me warmly with the little English he did know. During these initial visits another labourer joined the group and was present for my first official visit. His name was Daniel, he was nineteen years of age, and from Zimbabwe.

In this initial six-week period I would visit Bambanani each Monday from around 8am until 6pm, though this would vary depending on what was taking place on the specific day. I tried to spend equal time helping Janette, Gabriel, and Daniel in an attempt to gain their respect. I helped with the weeding, harvesting, and planting activities. The intensity of work would vary greatly over the weeks to come based on who was working, on the weather, and on what was happening on site. A few weeks into the process I met Constance, Operations Manager for Region F and Eunice's boss. It appeared that she wielded great influence within the project, and

I often found her in the garden giving instructions to Janette, Bongani, and Daniel. We had met previously at a food security workshop arranged for COJ regional managers and facilitated by the African Food Security Urban Network (AFSUN).[48] She recognised me from the workshop and immediately accepted me as a supportive presence. During this first six week period Constance was very supportive of me and would even come out during the lunch periods to request that Janette give me some produce to take home for my dinner.

A lot of my time at Bambanani was spent in the shade of the tool shed with the site's security guard who was named Pretty. Her shift was from 6am to 6pm during which time she patrolled and reported on the security status at the site to her head office via portable radio. Pretty proved to be a valuable source of information as she had developed relationships with all of the people on site and had observed many different interactions. She provided a different perspective on what went on that provided me with additional insights into the day-to-day events at.

While I tried to spend equal time with those present at the garden I often found myself working alongside Janette. During this period she appeared to be in charge of daily production activities and I believed that spending more time with her would strengthen my understanding of the operational aspects of the project. Even with this bias I was able to spread myself reasonably well between the three sub-groups of Janette, Bongani and Daniel, and Pretty. Through this process I was able to gain varied insights and data.

The second six-week intensive research phase began in early February 2012. Prior to this I had explained to the members that during this next phase I would concentrate on informal interviews and documentation. During this period I contributed fewer hours to labour and more to observation and documentation. Most of the time I would sit under the shade of one of the garden's trees in discussion with Daniel on various topics, or else on the bench outside the tool shed talking to Janette and/or Pretty. Each visit was different and sometimes I was able to spend time with other members who had been absent during earlier visits.

Throughout my time at Bambanani I had a feeling of unease. There appeared to be considerable tension between the members of the co-operative but also between the members and the COJ representatives, and between certain members and the hired labourers (Bongani and Daniel). It

[48] Workshop held on the 25th October 2010.

was only when I was able to spend time with people individually that I was able to make sense of some of the underlying dynamics.

Janette appeared to be in charge of production and sales. She was the co-operative's appointed treasurer and she therefore dealt with all the money that was made from sales. Bongani and Daniel answered to Janette and their work was based on the requirements of the co-operative's production programme. Rajesh would work every day on his own sections of the plot and would plant to the demands of his markets (though also to his own preference for produce). I would often find him harvesting and packing bundles of 'red herb' (*Amaranthus cruentus*), dhania (coriander or *Coriandrum sativum*), and 'Indian beans' (speckled Lima beans or *Phaseolus lunatus*). He would then take them to Bruma SPAR or Bruma Fruit and Veg City, depending on who had made the order. Peter also worked on his own sections of the garden, although these were smaller than Rajesh's sections and less well maintained. Peter was kept busy by his job at the cricket club and spent hardly any time at the plot. His primary role in the co-operative appeared to be to call and chair the co-operative's meetings. While Eunice was officially the COJ representative supporting the co-operative, she was far less visible than was Constance. Constance appeared to have great influence within the co-operative and often provided materials for the group at her own expense (though these expenses would be recovered at a later date). In addition she would often pay Daniel or Bongani R100 to wash her car, or give them money to buy their lunch or dinner. Mostly, however, they would not need to buy lunch as a hot meal was prepared in the kitchen facilities for all people working on site. On the two days of the week that the COJ soup kitchen initiative was in operation, everyone on site would be given some soup and bread as their lunch.

Another important observation made during my initial visits was how important this COJ space was for livelihood strategies of other community members. For example, Diana packaged achar punnets (see figures 5) at the site and sold these to people working in nearby factories. She packed the punnets outside the kitchen area, on the concrete paved floor surface. She used green mango, fish oil, etc. When I asked to take a photo she said I should not take it of her using her hands, "I am meant to use a spoon" (Diana).[49] These are sold for R15 and R10, and there was a larger pot, a 1 litre for R40. At her home in Lichtenburg, Mafikeng, it sold for R20 instead of

[49] Personal correspondence, Diana, 07 February 2012.

R15 and she made more profit. She was permitted to use the kitchen without charge and therefore made more profit per punnet. "One bucket for sale here, and one I take home, I make a lot of money," noted Diana (Diana).[50]

Figure 5. Diana packaging achar

Another important observation was with respect to the capital gained through the prize money and how decisions were made on how to spend that capital. Janette and Gladys, and Constance, Rajesh, and Peter could not agree on the matter, a conflict that ultimately led to Janette reducing her time spent at the garden and its subsequent neglect. Janette and Gladys argued that the project's capital should be put toward a 10% deposit, a total of R30 000 (a combination of the MTK award money), that would secure a DTI loan amount of R300 000 for the purchase of a vehicle to supply retailers with produce. Constance, with the support of Rajesh and Peter, stated that the money should rather be used to improve the fertility of the gardens through the purchase of organic fertilizers. Basically there was disagreement on how best to serve the co-operative with available capital. Janette noted her disgruntlement with the situation when she stated: "Bambanani is standing alone, not standing together" (Janettete)[51] – Bambanani means to 'stand together'.

[50] Ibid.
[51] Personal correspondence, Janette, 05 December 2011.

The map below (figure 6) provides a breakdown of the actors who are in some way engaged with the Bambanani Food and Herb Co-operative.

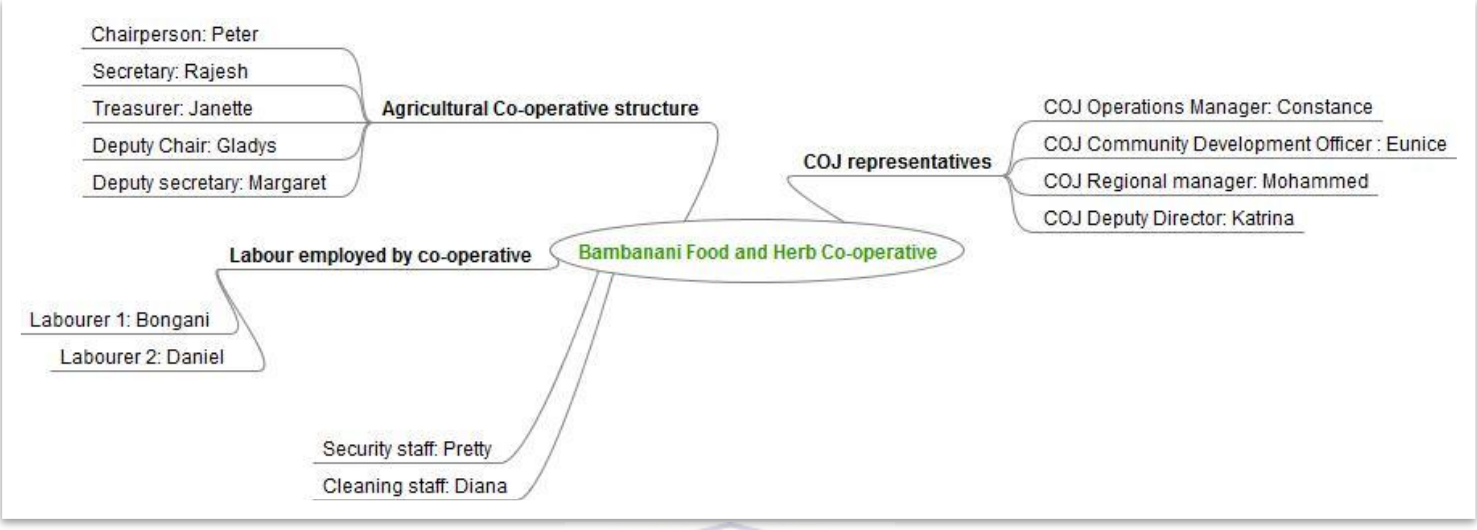

Figure 6. Mapping of actors at Bambanani Food and Herb Co-operative Region F

5.3 Production and marketing in the Bambanani Food and Herb Co-operative

As a component of my intensive analysis I documented the nature of the production and marketing system of Bambanani in relation to the following components: inputs supply and labour regime, production, processing, and distribution and marketing.

5.3.1 Inputs supply and labour regime

The Human Development Directive considers Bambanani to be a model UA community project and is provided with support as deemed necessary by the regional coordinator, Eunice but also the operations manager, Constance. It would appear that co-operative members are expected to take advice from these coordinators. Janette worked at the project six days of the week and managed the majority of the available space. Janette hired Bongani and Daniel ('the labour') from the street (they were homeless and had asked for work), and after negotiations Constance agreed to give them accommodation in the small store rooms on the property and a share of the money taken from the daily sales for their labour (usually R50 per day). Through closer observation I discovered that there was some conflict between the labour, Janette, and Constance about time spent working (who does what) and remuneration (who gets what). For the period of the first 6 week intensive programme there was a steady flow of income from sales that provided

between R25 and R50 a day for each of the labourers. While this was appreciated there was concern raised by Bongani and Daniel as to how much was actually made in the day and where this money was going. While there was a sales booklet rumour had it that not all sales were recorded. A transparent system of sales may have reduced some of the conflict, but this is not guaranteed.

Janette was the only member who contributed to the own labour component (a member who uses their own labour for production) of the co-operative's garden space. Rajesh primarily worked on his sections and did not employ any additional labour. Peter, similarly, works on his own separate portion of the garden, though on occasion he would help with the co-operative section. Quite often people who passed the project asking for food were made to work in the garden in exchange for a lunch-time meal (labour in exchange for food). There was a period when passing customers would be asked to pick their own product (labour at point of sale) though this did not last long as there were concerns about security and it was decided rather that the customers would wait at the gate for what they had requested. On occasion people passing the garden would ask for work. They were given a job to do in exchange for some cash incentive (R20 or R50 depending on the task). Most labour tasks were undertaken by the contract labourers, Bongani and Daniel. They would be given a task to complete for a set amount of money. They could complete the task in their own time, but they would only receive the amount stipulated once the task was completed. In addition to this labour the social worker would arrange for Community Work Programme (CWP) workers to labour at the site. They were usually given a task to complete and would take a few days to complete this. Janette would state that the CWP workers, if not properly supervised, would damage the work that they had already done and often merely hindered progress.

The right of Bambanani to make continued use of the land was dependent on clear evidence that it was being used productively, that produce was sold to the local population, and that the local community was involved in some of their activities. This form of tenure was clearly highly insecure, and was based largely on the preservation of a good working relationship between the regional coordinator and the co-operative members. The regional coordinator thus appeared to hold considerable power over the members, and was able to make decisions on their behalf with little or no consultation.

The relationship was not entirely negative, however, and in some instances brought the garden much needed funding. In 2009 and in 2011, for example, the project won prize money of R10 000 and R20 000 respectively for a GDARD annual award. The project used this money to buy inputs such as tools (garden forks, shovels, rakes, watering cans, secateurs, hosepipes, and wheelbarrows), seed, and organic fertilizers (Bounce Back)[52] and installed additional water points at strategic points in the garden. Though Janette and the labourers put in a great deal of effort to help the garden to win these prizes, some credit could almost certainly be afforded to the good relationship between the co-operative and the regional office (Social Development nominate different gardens for the awards and it is likely that this support helped them to win the prizes). Seed was also regularly provided to Bambanani by the regional office, and this was mostly the reason why the project members did not save seed. Janette did save some seed for replanting, although pressures from Constance to "keep the garden productive and tidy" limited its frequency.

Soil fertility[53] was maintained through rotational cropping, the addition of Bounce Back, or compost application. Compost was made from biomass and grass waste cuttings that were delivered to the garden by City Parks. Water and electricity accounts were paid for by Social Development (electricity was used for the operation of a kettle, a two-plate stove, and lights). Pests were controlled by planting pest control plants such as marligolds, nasturtiums, garlic, and chives in amongst the various plant rows. Inter-cropping with beneficial plant species also helped to control pest infestations (for example planting basilicum in rows next to tomatoes). These methods were surprisingly effective and plants were generally healthy and high yielding. Since joining the co-operative in 2007 Peter had completed various short agricultural courses most of which had an agroecological focus that taught these various techniques.

5.3.2 *Production*

Decisions on what crops to plant were based on the nature of the market demand. For Janette, produce was primarily grown for sale to the local residents. As Janette stated, "The community likes chou-moellier (Kale or *Brassica oleracea var. acephala*), pumpkin leaves (*Cucurbita*

[52] http://www.neutrog.co.za/bounce-back-2/. Accessed: 4th February 2013.
[53] Soil tests revealed that the pH levels were near neutral and ammonium nitrate was recommended to acidify the soil to ensure good uptake of micro-elements.

maxima), *tepe (Amaranthus cruentus*)[54] (see figure 7) and Chinese cabbage (*Brassica rapa subsp. pekinensis*) […] The market likes rosemary, dhania, thyme, basil and spinach" (Janette)[55]. Janette and Constance did not always agree on what should be planted. Janette allowed *tepe* to grow as her customers regularly asked for it. Though Constance was aware of the value of *tepe*, - nutritionally, popularity-wise, and from a taste perspective - she considered it a weed and an unsightly plant for the garden. On many occasions, but only when Janette was not at the garden, Constance would order the labourers to 'clean an area'. Janette would be distraught when she found that plants that could have made some money had been removed and thrown onto the compost heap. She described how her customers would have to wait for the conventional crops to grow before they could buy from her. Herein lay the conflict: where Janette wished to meet the demand of her local client base, but was often prevented from doing so by Constance's belief that she knew what was best for the garden.

Figure 7. Janette selling tepe at her local corner shop

Rajesh, on the other hand, had full control of his space and had no interference from Constance. He produced 'red herb' (see figure 8), dhania, and 'Indian beans' that were some of the staples of Indian cooking. He also sold marigold flowers at R1 per flower that were used for Hindu ceremonies. As a rule, he planted according to his food preferences and the market demand and was not hindered in his endeavours.

[54] Tepe is the Sotho name for the green *Amaranthus Cruentus* species.
[55] Personal correspondence, Janette, 1st November 2011.

Figure 8. 'Red herb' bundled and ready to be packed

Peter often spoke of erecting tunnels at the site to increase their ability to produce in the winter period and to improve their prospects of being allocated more land.

> *"For this to be sustainable we must get tunnels, because in tunnels we will be able to quantify how much we can produce and we can control the humidity and things. But in the open field it's hard, the challenges of rainfall, frost, wind, birds and whatever, ya the challenges that hamper the success of open filed. But if you see big farm those things are there but it cannot damage all, but here there is the chance for it to damage all and then we're left with nothing. And in the farm we can have insurance and if there is a disaster we can claim. And also because it's not our land, the City of Joburg's land. Actually we have to showcase what we know and … we can see if we can go big (Peter).*[56]

Bambanani had requested the tunnels from GDARD but according to Peter, they were still on the waiting list.

[56] Life history, Peter, 23rd April 2012.

5.3.3 *Processing*

The only value-adding activity practiced by Janette was where she would wash produce before placing it into a packet[57] though mostly she would not even wash the product. When Janette made chicken and pap lunches for meeting attendees she would take produce from the garden to make a green side-dish of marog (green leafy vegetable usually consisting of Swiss chard, chou-moellier, or tepe). Rajesh would pick his produce, wash and bundle it according to the retailer's specifications.

5.3.4 *Distribution and marketing*

Constance would often provide Janette with transport to the various market spaces, but only when she had time to do so. A complication arose on the 20th October 2011 where Janette had picked three cartons of lettuce for a local farmers' market in Killarney Mall. She picked in the early morning and hoped to be at the market by 7am to sell the stock. Constance had said she would provide transport, but called later to say she was unable to do so. Due to the lack of cold-storage and no alternative transport, an opportunity to sell to a middle-class market and increase her profit margins was lost. Janette could have sold the produce to SPAR or Fruit and Veg City though she decided not as they offered her R1 per head of lettuce. Lettuce was also not a popular vegetable for 'garden-gate' sales, and therefore was wasted.

The project was located directly over the road from a Rea Vaya bus rapid transport station and was in clear view of its patrons. There were many people working in the area who used the transport and many of them would call in at the garden to request produce for their evening meals. Consumers would receive fresh produce that was harvested as it was ordered. This was ideal for perishable produce such as pumpkin leaves that needed to be cooked soon after harvesting.

The site's office spaces were also used for community crèche meetings. There were often large groups of women who attended these meetings and some of them had developed a relationship

[57] Passers-by often bring their own bags.

with Janette and buy the garden produce. "The community knows it is cheap and fresh and that they can get things like pumpkin leaves" (Janette).[58]

Janette would occasionally take produce to the local retail outlets (Bruma SPAR and Bruma Fruit and Veg City) when she had excess and when transport was available (usually Constance). She would not receive a good price for her produce at these outlets though it did help when her excess produce was not bought by the 'garden-gate' consumers. Rajesh sold a considerable amount of his produce to the retail sector. He did not make much money from these sales though (R2.50 a bundle of red amaranth was marginal especially when he was only able to bundle, on average, 20 bundles per delivery that accrued to R50 per delivery) and it would seem that he would be happy to take home the produce only selling off excess that he and his family were not able to consume.

In the later stages of the research when the conflict about how to spend the R30 000 prize money began, Janette was told to stop her practice of harvesting for customers as they ordered. Constance requested that in its place a stand be erected next to the palisade fencing where products could be sold (see figure 9), including pre-harvested vegetables from the garden. Janette noted that her system was preferable as customers wanted freshly picked product and that they would not buy produce that had been standing for some time. Janette also commented on the inefficiency of the system, where in the past she could work in between harvesting for customers, now she had to sit and wait.

[58] Personal correspondence, Janette, 1st November 2011.

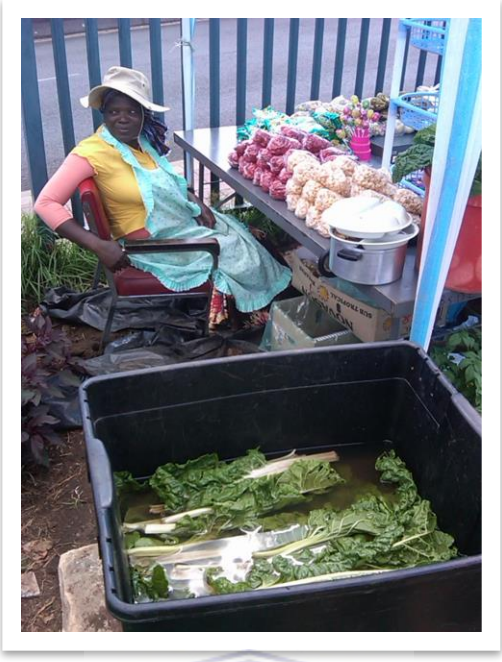

Figure 9. Janette at her stand with pre-harvested spinach in water

On the 20th December 2011 the Bryanston Natural and Organic Market's (BONM) PGS assessment team visited Bambanani to complete a PGS assessment of the project (see *Appendix IV* for the report). Based on the visit, the PGS assessment team approved Bambanani as a PGS assured group. What this meant was that Bambanani were now accredited under the PGS system and would be permitted to supply produce to the market for sale as PGS organic produce. No produce has yet been sold to the market due to transportation constraints. The assurance would last until the next annual inspection which would be due in December of 2012.

5.4 Organisational structure

The Bambanani Food and Herb Co-operative was registered by DTI's Companies and Intellectual Property Registration Office (CIPRO) as a primary co-operative on the 3rd April 2007 in accordance with the Co-operatives Act of 2005. The co-operative's Standard Industrial Classification is: "TO ESTABLISH FOOD GARDENS TO CATER FOR POOR & VULNERABLE HOUSEHOLDS. TO ENABLE COMMUNITIES TO HAVE ACCESS TO ORGANIC VEGETATION" (*Appendix V*). While the group did consist of the requisite five members, these members were not all active in the operations of the co-operative, and did not contribute equally to the functioning of the group (though each would no doubt emphasise their

value to the project). From the outside looking in this project would seem to be functioning smoothly and could be considered a model of what one might call a 'small-scale co-operative sector'. Indeed, it was this depiction that helped Bambanani to win the MTK awards and further funding support from Nestle in 2011, the money for which went into the co-operative's bank account. Questions around what the money would be used for were still to be debated and would impact heavily on the choices of the members, particularly for Janette who had contributed most to the success of the garden and the resultant winning of the prize money.

Peter, as the chairperson of Bambanani, stated that all members had equal say in the running of the organisation. During the period of my site visits it appeared that Janette had control of the production, the harvesting, and the sales. It was generally understood that because she was the only co-operative member working daily in the co-operative section that she should benefit from the daily cash made, some of which should be put into the co-operative's bank account (how this was all managed or agreed to was never made clear to me). It came to my attention later in the research process that Constance would act as a facilitator, helping where she was needed, holding daily cash income, distributing it, and taking Janette to the bank to deposit larger amounts of money.

Decisions for the co-operative's garden section were made through a democratic process through meetings that were held with members and COJ coordinators, Constance or Eunice. Both held considerable influence over the group and were able to direct decisions based on their management positions. Government support was provided as a result of the group's co-operative status. Capital was accumulated in the name of the co-operative and labour and production inputs acquired according to the project's requirements as decided by the group. The allotment component of Bambanani was comprised of two separate planting areas one controlled by Peter, and the other by Rajesh. Through decisions agreed on by the co-operative members, Peter and Rajesh were permitted to have exclusive access to these areas of the garden and to the production outputs of those areas. These spaces were managed and resourced separately from the co-operative space but would be equally eligible for government or civil society support that was offered to the co-operative as a whole.

5.5 Urban livelihoods of co-operative members

Bambanani was an important source of livelihood for each of the co-operative members and labourers although to varying degrees. During my field research period both labourers lived on the property, Daniel in the gate house, and Bongani in the tool shed. Both had been offered the position and the living space in a similar manner. Bongani arrived in Johannesburg from Maputo, Mozambique on the 14th January 2011, and had immediately found accommodation at the church shelter in Hillbrow (known to house many of Johannesburg's first visit migrants). The very next day he had walked the streets in search of employment and had happened across Bambanani where he asked Janette if she was in need of any help. Bongani had worked as a security guard in Maputo and was in search of better income through employment in Johannesburg. Janette offered Bongani a plate of food and said he could help for the day for a small wage, based on what was sold. Bongani worked hard and through this he convinced Janette of his value. It was only after a few days of this that Janette was able to convince Constance that he should stay. Included in his informal 'work package' was a space to sleep and a daily meal.

5.5.1 *Bongani's story*

Bongani left Johannesburg for Maputo on the 19th December 2011 and did not return. He had told Constance, Janette, and Daniel that he would return after the Christmas holidays but he did not. Bongani had multiple income sources whilst working at the garden. His primary earnings came from working in the garden as labour, based on a proportion of daily sales of produce (R25 on a bad day and R50 for an average day – though never more than R50). He also earned money as a car guard when the adjacent Ellis Park Stadium or tennis facility held events. At the final match between the Lions and the Sharks (two provincial rugby teams) all eight people working the car park security that day made R1 170 each. This was an anomaly and Janette said that the usual amount made was in the region of R200 per person. On occasion Constance would ask Bongani to clean her car and would pay him R100 for his work. Janette stated at one point that it was ridiculous that Constance paid Bongani so much for washing her car. She said that the piece-jobs he was getting only paid him R50 per day, similarly to what she was paying him for the work he did in the garden. These piece-jobs were irregular but often enough to make Janette

note his absence. Janette often spoke of how he was being exploited by others and that it was unfair that he went off to work elsewhere when it was she who had given him the job and brought him off the streets.

5.5.2 *Daniel's story*

Daniel had come to the garden in search of independence from his Zimbabwean family who lived in a flat in Hillbrow. He had run into some problems at home and had dropped out of high school. He had not completed grade 11 and was already 19 years of age. He said he wanted to save money to go to college the following year. He was saving for what he called "a soft job, not this one for sweating. Okay it's alright, but for me it's not interesting" (Daniel).[59] He would need R7 500 to be comfortable (covering school – R500 - and living costs). At the time of the research he had saved R4 500 from working in the garden so he had to work a few months more to make up the difference.

This was the first time Daniel had worked in agriculture. He noted that it was only temporary and that he would leave as soon as he made enough money for his studies. When I asked him whether he thought farming in the city was interesting and of value he said, "Ya, because in Joburg you see, not many people have got this kind of lands. I'm sure they are amazed…It was important for them to buy. Congolese, Nigerians, ya. Buying different things. Congolese the sweet potato leaves. Pumpkin leaves the Nigerians and Congolese. Chou-moellier and Spinach the Zimbabweans. Congolese, the Tepe, they like it too much" (Daniel).[60]

When I asked Daniel if he would farm if he had the land he said that he would not. "I want to be a technician or something else. But not something dealing with a shovel and a rake. It won't include the soil" (Daniel).[61]

Daniel spoke of Gabiel and his leaving. "For Bongani, they made him work and work and work. She takes all the money [referring to Janette]…I don't know why she was acting like that. She was treating him so bad. The other problem is that she is the one who came with that guy. He was working too much. When I came I was following his steps. But as time went on we started

[59] Life history, Daniel, 20 April 2012.
[60] Ibid.
[61] Ibid.

to rest, because we saw that lady was wrong…He was happy when he left too much. Maybe about R5 000" (Daniel).[62]

5.5.3 *Janette's story*

Janette had by far the most lucrative combination of income generating activities, all of which were channelled through the Bambanani space. Prior to joining Bambanani Janette ran her own crèche, "Precious Lillys". She would go to the site's offices for crèche meetings with other local crèche groups. It was during these visits that she was convinced to join with Peter and Rajesh to form the co-operative.

On the 15th August 2011 during a preliminary visit to the site I arrived to find it raining and sleeting. Janette invited me into the gate house for some tea and shelter. I found Daniel and Bongani sitting next to the heater. Whilst sipping my tea I noticed a pram in the corner. Shortly thereafter I heard a cry and realized that there was a baby in the pram. I was observing Janette at work, both in her capacity as Bambanani co-operative member and worker, and as babysitter. Janette told me that most mornings she would have this child, sometimes others. They would stay in the room while she and the others worked in the garden. The pay per child varied, though she admitted that she was satisfied with the wage she was getting. "I don't know what job the mother does. She pays me, some can pay, some cannot. They don't have much. The child was 3 months, now it is 1 year and 2 months. Been a year. She pays, sometimes R100 sometimes R150, sometimes R200" (Janette).[63]

Janette would also buy meat, pap, and rice in bulk (dependent on the menu for the day) and would cook it and prepare plates of food for the various meetings that took place there. She would sell a plate of food for R30. She was permitted to use the kitchen facilities for this. She would also make Ngwenya or vetkoek (a popular deep fried bun usually eaten for breakfast or during breaks with a cup of coffee or tea) and buy sweets, chips, sweet popcorn, apples, and bananas, that she would sell to people passing the gardens (acting as a street vendor). On top of all of this Janette would make money from garden sales and from the car park earnings.

[62] Ibid.
[63] Personal correspondence, Janette, 1st November 2011.

5.5.4 *Peter and Rajesh*

Peter earned a regular income from his cricket club job. He had his own row of vegetables but these were only grown for his home use. Janette noted with respect to Peter and the support from the co-operative members: "There is no co-operative support, Peter has another job. He worries about his family" (Janette).[64] Rajesh on the other hand, sold his produce to subsidise his petrol bill. He would also earn money from his twice-weekly fitness training programme at the cricket club. Rajesh also took much of his unsold produce for home use, or to give to his friends and family.

5.6 The wider significance of Bambanani

Bambanani is placed in the middle of a number of highly diverse neighbourhoods with people originating from the Congo, Zimbabwe, Mozambique, Malawi, South Africa, as well as from other African destinations. Some of these people pass Bambanani on a daily basis on their way to and from work, or else while walking to the shops from their places of residence. Bambanani provided an important market space for these people, particularly considering that the produce grown at Bambanani (chou-moellier, tepe, pumpkin leaves, mint, etc.) was not available the local retail outlets (SPAR, Pick n' Pay, Checkers, etc.). Janette grew produce according to the demands set by these consumers and while she was in control of the space she provided regular supply of such produce.

In addition to the importance of the availability of this produce was the cost of such produce. A full packet of tepe would cost R5. For both pumpkin leaves and chou-moellier fifteen large or 25 small leaves would cost R5. Some customers would pay R10 for a full bag of these leaves, the actual quantity of which was not counted. On average a bunch was far larger than anything that could be bought at SPAR or other retail outlets. For people who might be struggling to pay for food this daily purchase was affordable, and where it was not affordable, it would be given free of charge. Janette was very aware of the poverty surrounding the garden and she would often give people a bag of tepe or whatever was available for them to take home to their families.

[64] Personal correspondence, Janette, 15 December 2011.

Social Development centres such as this one at Bertrams that are strategically placed and visible to the public can be important spaces for urban residents to develop a diverse set of livelihoods that would not be so viable if placed in another setting (for example if it were positioned out of view from the general public, or if it were near to communities who did not walk to work or use public transport). The location of the garden is ideal for selling street vendor snacks (sweets, chips, sweet popcorn, fruit, etc.) but also for local distribution of processed goods like the achar that Diana sells or the multipurpose cleaning liquids that are sold from the site.

While such a garden would not be in a position to supply large quantities consistently to local retail outlets, it showed to be successful in supplying quick growing leafy vegetable types to 'garden-gate' consumers. While the effects of this are not easily quantified, simple observation made it clear that people's access to foods that were not commercially available was enhanced through the existence of this space and could be supported to further increase access to such foods.

5.7 Conclusion

Bambanani is an example of an inner-city agricultural co-operative project that provides the space and basic resources for a diverse set of livelihoods. Largely due to complex social dynamics and conflicting expectations and needs, its production potential is not being realised. Even so, the space's central location next to Ellis Park and its visibility from the busy Bertrams road that is a thoroughfare for inner-city residents makes it ideally suited to act as a livelihood development space where entrepreneurial individuals can continue to eke out a living.

Chapter Six: Mtla Vegetable Garden

In this chapter I describe and analyse an urban agriculture (UA) community project, Mtla vegetable garden (Mtla), located in the Johannesburg suburb of Newlands. The group had four members who grew primarily chou-moellier (kale or *Brassica oleracea var. acephala)* that was marketed to local hawkers who travelled to the garden by foot or by taxi. I focus on Mtla's history, how it was structured, the production and marketing strategies it used, the contribution of the project to the member's livelihoods, and the organisational dynamics and tensions they faced. I then assess the wider significance of this case in relation to South African urban poverty, livelihood strategies, and food security.

6.1 Location and background

Mtla[65] vegetable garden was located on approximately 7100 m^2 (0.71 hectares) of land in Newlands, Johannesburg, at the Dani van Zyl Sports and Recreational Centre. This garden fell under the domain of the COJ Human Development Directorate's Region B. The COJ community development worker who at the time was responsible for the garden was Mr Maseko. He was based at the Transformation and Development Centre (TDC) that was located in Westbury, approximately 1 kilometre south of the garden. Mtla was bordered by netball courts to the west, a football field to the east, and a crèche to the north. The garden was surrounded by palisade fencing and a lockable vehicle access gate. While it was reasonably secure there were some areas where the fence was broken and through which children could enter to take the peaches or other seasonal fruits that were growing there. There were no lockable storage facilities and most tools were left hidden in the tall grass or under the plastic tarpaulin and shade clothe that served as shelter for the members when it rained. There was a borehole on site with an extensive irrigation system though the pump has been broken since 2007 and the resource could therefore not be utilised. Municipal water was used for irrigation through garden irrigation pipes that had to be moved manually to the different sections of the garden. A considerable amount of time was spent moving the irrigation sprayers and pipes that often were left on continuously to ensure that all sections of the garden received water.

[65]Translated meaning of the word is: all powerful.

Kale, commonly known as chou-moellier, was the main plant grown in the garden. It was sold to street hawkers from Hillbrow or from the local areas such as Newlands and Westbury. The Hillbrow hawkers travelled approximately four kilometres to the garden to source the popular green leafy vegetable. In addition to Kale mainly potatoes, mielies, chillis, beetroot, and some fruit varieties (peaches, plums, and figs) are grown but only on a small scale and mainly for subsistence purposes.

The project implementation process began in 2001. Mr Maseko explained how his department (COJ Social Development) had helped to set up the project. "We assisted with getting people that would start the project and then provided them with land. We linked them up with the department of sports which is in charge of that land" (Mr Maseko).[66] Joe, the designated treasurer at the time, was one of two that remained of the original members of the project. From 2001 until 2003 membership numbers fluctuated constantly but by the beginning of 2003 only Joe and Isaac remained. "They train me, after that, other people are running away. They say no, we are not getting a pay. They [social workers] say you make things and then you sell and make the money" (Joe).[67] In 2003 John and 32 other people came together to register as a co-operative called the Mtla vegetable garden. "We were called together to form co-ops…we were 35, then people left, they say these social workers are playing with us, making us tractors" (John).[68] The palisade fencing was erected and an irrigation system installed, linked to the existing borehole and borehole pump. A final attempt was made to register the group as a co-operative in 2006 (post the promulgation of the co-operatives Act of 2005) when "another coloured, from Westbury" (Joe)[69], James, was offered space. He grew flowers and vegetable varieties but when it came time to register the co-operative he left to join another group in Bosmont.

Emmanuel was brought to the project by John in 2006. John trained him and gave him space to plant. By this stage there had been a move toward splitting the garden and allocating space to individual members. This decision was not in line with conventional co-operative practice but was done to keep members from leaving the project due to concerns about free-riding by new members. The allocations as of February 2012 are depicted in figure 10.

[66] Interview, Mr Maseko, 02 December 2011.
[67] Life history, Joe, 06 April 2012.
[68] Life history, John, 06 April 2012.
[69] Life history, Joe, 06 April 2012.

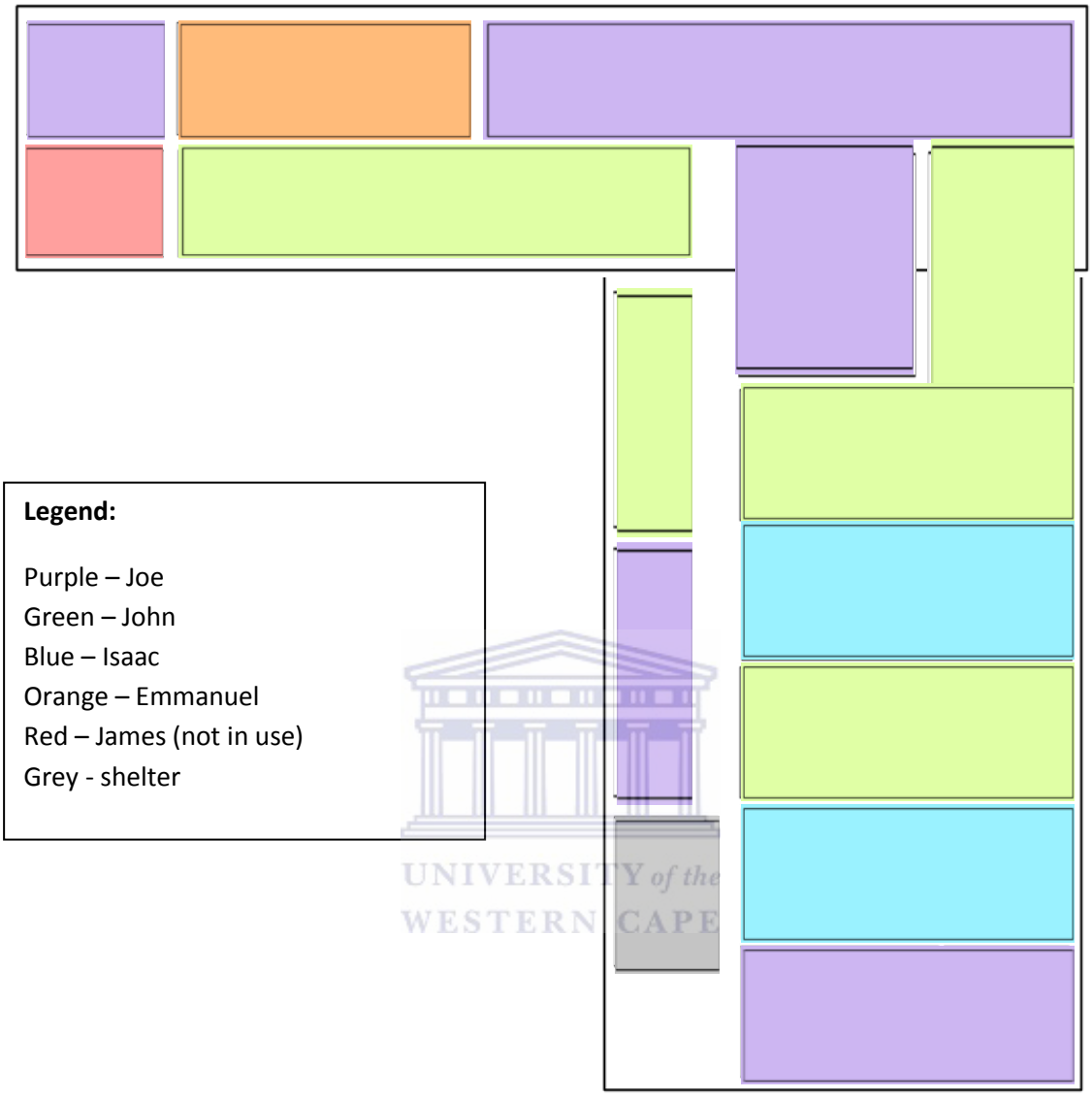

Figure 10. Mtla vegetable garden plot allocations

"We were all working together, then they cut it for others. We kept it for the others but they never came. This was everyone's space, due to failure I took it - otherwise every rubbish will come here [referring to weeds]. Even now I'm looking for a better space, this is too small" (John).[70]

During my research period, space was used by Edward, one of the site's security guards, and Dolly, who was a cleaner at the Dani van Zyl Sport and Recreation offices. Edward had a 32 m^2

[70] Personal correspondence, John, 7th February 2012.

patch of potatoes (see figure 11) and Dolly a stand of mielies of approximately the same size. John noted that Edward and Dolly would use the produce for their own home use, and would give him and Joe produce as payment for use of the space (both John and Joe's spaces were in use and therefore they were both recipients of the produce as payment).

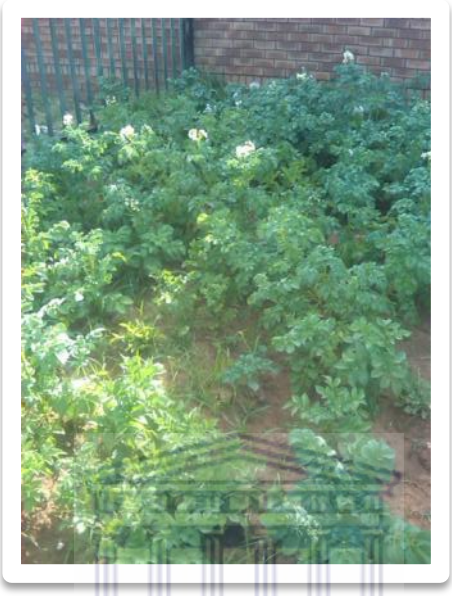

Figure 11. Edward's potatoes within Joe's allocated space

Mtla, though small in size, maximized use of space and almost every open piece of soil had something planted in it. To further maximize capacity the members chose to plant chou-moellier because of its high yielding properties (number of leaves produced on one stem), minimal space requirements, and the plant's vertical reach. It was also a low risk plant in the sense that it could recover quickly after a hail storm due to its hardy stem and rapid regenerative ability.

6.2 Early observations and impressions

I met John, Joe, and Emmanuel at a local farmer's meeting that was held on the 18th August 2011 at the Bertrams COJ facility (the location of the Bambanani Herb and Agricultural Co-operative). The meeting was for the Abalimi Inqubela Forum which had been recently convened and was recruiting membership. I had been asked to make a presentation on the PGS movement and saw it as a good opportunity to get to know more of Johannesburg's local farmers. I was approached by many people one of whom was John. I asked him where he farmed and when I realised how close it was to my home in Johannesburg I decided to offer to give him and his colleagues a lift

back there, again an attempt to view more local agriculture and to assist with my choice for possible field sites.

They walked me through their garden and told me of their operation and their many needs. They spoke of the hard work they had to do weeding, watering, marketing, and selling. They spoke of their broken borehole pump and of the lack of support from government. They showed me the aphids that were destroying their plants and asked if I knew of any natural remedies. I said I would do some research on alternative remedies and would come back to them with possible solutions to their problems. The garden, as an example of urban agriculture, was larger than anything I had seen up to that point. In addition, the members gave me the impression that the garden from a sales perspective had a wide reach, with hawkers actively sourcing their produce due to its reputation for quality and taste. It was these characteristics that influenced my decision to choose the garden as one for my intensive research. I visited every couple of weeks and slowly introduced the idea of my desire to visit the project to conduct my research on a more regular basis. I asked John if it would be possible for me to visit the site on one day of the week for a period of six weeks. John said he could not say and that he would have to call a meeting with the other members to get consensus on the matter. There was some hesitation and only after I was able to discuss the issue with Joe present was permission granted. They said they would talk to Emmanuel and Isaac and that it should not be a problem. I would start on the 10th November 2011.

On the 9th November 2011, during my visit to Bambanani, Janette asked if I could take her to a GDARD meeting at Turfontein Race Course the following day, on the 10th November 2011. I was scheduled to go to Mtla but decided that if John and Joe also wanted to go to the meeting that I would take them along and benefit from having three of my site informants in the same space. John agreed to join but Joe did not. He wanted to stay at the garden to complete his day's work (later on in the research process I came to realise that mostly John would attend the meetings arranged by government and Joe would stay to work on his plot). The meeting proved to be quite informative and I again was able to meet a number of Gauteng's black farming community. More importantly, for the time being at least, was the positive bond I started to create with John (also with Janette with whom I had already developed a strong bond). After this

first proper interaction with John, I felt more comfortable visiting him at the garden and in addition sensed more of an acceptance of my presence from the other members.

For the weeks that followed I worked alongside either Joe or John weeding their sections of the garden or transplanting seedlings from John's nursery (see figure 12) into one of his sections. It was usual to find Joe in the garden by himself, shoes and clothes covered in mud, back hunched with garden fork in hand. He would set himself goals every day, and by the end of the week he would have cleared an entire planted block of weeds. I helped him most of the days I was there. John would arrive later in the morning and I would join him to assist him with his work or just to talk. There was always an air of uneasiness where I would feel that I was seen to be helping Joe

Figure 12. John's nursery covered with shade-cloth

too much or talking too much with John. While they appeared to be good friends I sensed a power dynamic that was not so clear on the surface. Joe, though older than John, appeared to have less say over the garden decision making processes and would not speak as confidently as he would when John was not around. On the whole, my working with them helped to forge relationships that would allow me to visit when I pleased. It also gave me the time to engage them about their personal lives and to uncover some of the social dynamics present at the garden.

As was mentioned previously, garden members were responsible for their own sections of the garden. It was clear to see the commitment that John and Joe put in to their sections through the number of harvestable plants and the cleanliness of their spaces (weeded and clean of debris and

rubbish). Isaac's section was not well looked after and in some sections was completely overgrown with grasses and weeds. James' space had been lying vacant since his departure and was totally overgrown with weeds. Member presence at the site appeared to correspond to the productivity of the specific member's plot. This was not the case for Emmanuel's area though. I had only seen him at the garden on two occasions. One of the times I arrived to find him watering his plants. His section looked as clean and productive as both John's and Joe's were. Emmanuel told me that he would come to the garden early in the morning before work or in the late thereafter. He would also come on weekends when the hawkers came to purchase their stock. He was training as a security guard and hoped to secure a contract position in the near future.

It was through this engagement with Emmanuel that I learned of how important the garden was as a livelihood provider but that it would fall second to a more regular paying job if one was on offer. John, for example, spoke of how he neglected the garden in 2009 to work as a brick layer for the new Rea Vaya station[71] that the COJ was building near to his home in New Canada. He could no longer work at the garden on a daily basis and therefore hired two people to maintain his sections. At that stage Emmanuel was not working at the site. He had asked John if he could be given a space and this was granted to him when John left for the Rea Vaya job.

During the period of the research it appeared that John and Emmanuel were not getting on. After some prying I discovered that there was disagreement over which sections of the space belonged to Emmanuel and which to John. John told me that he had taken over space that was originally allocated to Emmanuel because of him not using it for an extended period. I later disc discovered that Emmanuel had been ill for some time and only recently had he returned to the garden.

While this project had a similar development status to Bambanani (a COJ urban agriculture community project), it appeared to have far less COJ support on the ground. There was no storage facility for tools and what tools were available were broken or poorly repaired (a handle-less garden fork, one of three of the tools present on site). At night these would be thrown into the overgrown grass that acted as refuge from would be thieves. In addition to this, during my

[71] The Rea Vaya bus system is the new transport network that was developed in preparation for the FIFA world cup in 2010 - http://www.reavaya.org.za/welcome. Accessed: 4th February 2013.

entire research period, I only once saw a government representative on site. Her name was Maria, the Sports and Recreation coordinator who coordinated use of the Dani van Zyl facilities. On the 15th February 2012 Maria brought a local pastor and social worker by the name of Mr Lawrence to view the vacant space that had originally been allocated to James. In engaging in discussion with them they told me that there were pensioners at the pastor's parish who they wanted to give land to grow food. Maria suggested they make use of the vacant space and they were therefore viewing the space to consider the viability for this. After they departed John told me in confidence, "They will fail…They want the space for the old people. Let them come…agriculture needs someone who knows what he is doing" (John).[72]

Figure 13 below provides a breakdown of the actors who are in some way engaged with the Mtla Vegetable Garden.

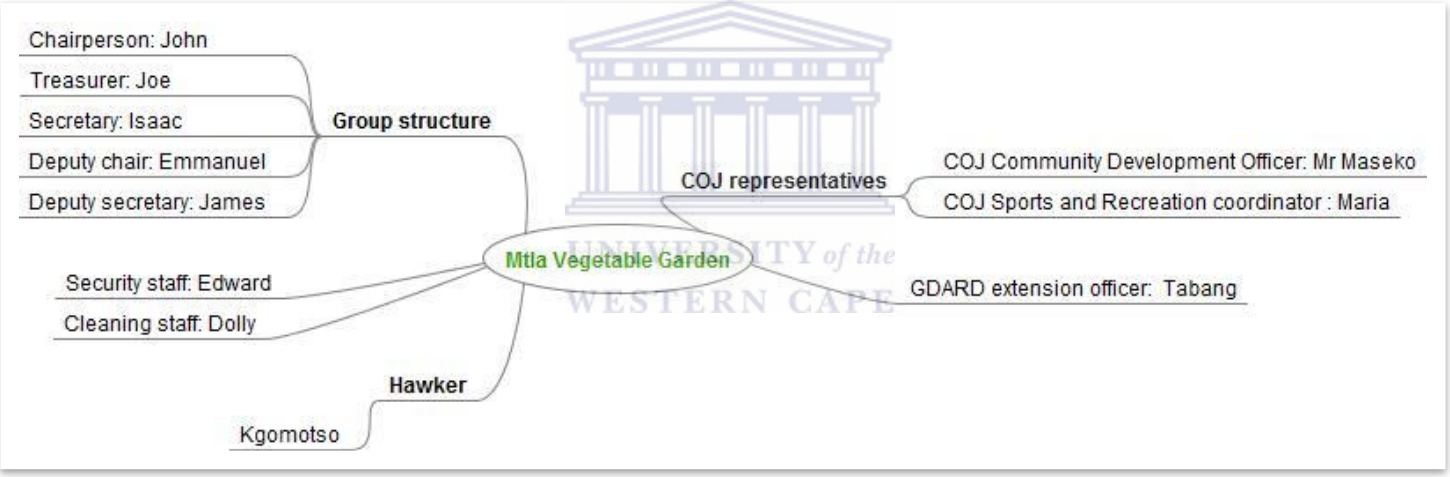

Figure 13. Mapping of actors at Mtla Vegetable Garden Region B

[72] Personal correspondence, John Moyo, 15 February 2012.

6.3 Production and marketing in the Mtla Vegetable Garden

An element of my intensive analysis included the documentation of the production and marketing system of Mtla in relation to the following components: inputs supply and labour regime, production, processing, and distribution and marketing.

6.3.1 *Inputs supply and labour regime*

All members provided own labour input for their individual sections of the garden. The quantities of produce sold and consequently the amount of money made by each member was dependant on the productivity of his crop. For the crop to be productive constant weeding and watering was required. Occasionally 'piece-job' labour (payment made for a specific task) was brought in to assist with weeding or land preparation. This labour was paid for by the member who sought the assistance. Mostly, however, the individual member would work in his own space and complete any task that was required. As was explained above, space was also loaned to people who wanted to grow their own crops, a type of urban sharecropping (the example of Edward and Dolly with their potatoes and mielies). This loan helped to reduce the amount of labour the member had to do on his own plot. In the process the land was cleared, planted, harvested, and cleared again. It also provided a supplementary source of food as a portion of the produce harvested from these loaned spaces was given to the members as payment for the loan of the space.

When I asked John why Dolly and Edward did not join the co-operative he noted: "When will they work, they are working there [referring to the Dani van Zyl Recreation Centre]. Those people are getting paid. They come to you and they say they want a share…that is not possible…You think you can feed your family with that? [Referring to Dolly's mielies] She is doing that for leisure. I will be there by July" (John).[73] By this John meant that Dolly would lose her space when he reached there in July. This would also be the time when all Dolly's mielies would have been harvested and the space cleared.

If one of the active members found contract work outside of the project they would ask friends to assist, who were paid for their efforts, or else they would ask one of the other members to look

[73] Personal correspondence, John, 8 December 2011.

after their plot. Usually this other member would take over the space for a period of time until the contract work came to an end. Access to the space would continue until such a time as they felt they had been compensated for their assistance.

The land was owned by the COJ and managed by the City of Joburg Property Company.[74] It was leased to the Department of Sports and Recreation who allocated space to Social Development's Region B. As was indicated above, internally the land was subdivided between its four members.

Chou-moellier is perennial and requires little attention and space which is ideal for a plot with little labour capacity. Some of the plants in the garden were more than four years old and had thick woody stems. Cyclically these plants were removed and replaced with seedlings or cuttings.

> *"They gave us seeds, spinach seeds...for the first time. Then after that there's no need for them to supply seeds. They did supply us with pipes, garden forks, nets; they did supply us with sprayers, now our pipes are fucked up (sic). So we need more pipes"* (John).[75]

With the change to growing primarily chou-moellier there was no need for Social Development to supply seed. Seed was harvested annually, dried, and stored (see figure14). Some was kept for the following year's new crop and the rest was sold to farmers. John spoke of selling three 20 litre containers of seed at R6 000 each. In addition to propagating from seed, cuttings are taken and replanted. The most effective method, John reported, was to place a bunch of cuttings into one hole that is watered daily. Once roots developed the cuttings were transplanted. This method had provided more viable transplants and was easier to maintain as he only had to water one spot as opposed to an entire field of cuttings. Garden forks, irrigation pipes, sprayers, and shade netting were all supplied in the first year of the project. Little further support had been provided and the members continued to work with these, by that stage, faulty tools and damaged pipes. The borehole pump broke in 2006 and had been fixed twice, in 2006 and again in 2007. Shortly after the 2007 repair the pump broke for a final time. John remarked that "you cannot fix an old person, you must replace him" (referring to the 1979 model pump that he noted should be

[74] http://www.jhbproperty.co.za/company_profile.html
[75] Personal correspondence, John, 6 April 2012.

replaced and not fixed). Since then there had been no electricity requirements and therefore no electricity bill expenses. Prior to this Social Development would pay the bill. Members use municipal water at no cost to them as the bill is paid by Social Development. For this reason it is used without concern for waste or expense.

Figure 14. John's seed drying on plastic

Soil fertility was maintained by adding compost made by grass cuttings that were dumped over the fences by City Parks.[76] In addition, weeds were churned back into the soil to decompose and, to some extent, to replenish the soils. I did see the grass on the borders of the property but never saw the resultant compost as over the 2012 winter period all the grass was burned by arsonists and reduced to ash. This ash would benefit the soils to some degree but would not provide all the required nutrients that had been depleted from the soils over the years of continued plant growth. Signs of soil fatigue were clearly evident and soil tests showed that the soils were alkaline. Soil agronomist Mr Wessel van Wyk suggested application of ammonium sulphate as the Nitrogen source to increase the acidity of the soil.

In 2011 Malisol was used to control a large-scale aphid infestation but had not been used again. Other than for this insecticide application no other chemical products had been added to the plot.

[76] City Parks is a COJ directorate that maintains parks, pavements, and open green spaces - http://www.jhbcityparks.com/. Accessed: 4th February 2013.

6.3.2 *Production*

The way found Mtla vegetable garden was the result of more than ten years of adaptation and experimentation. In the first years the garden was planted with a large variety of vegetables.

> *"We were planting onions, spring onions, dhania, spinach, carrots, beetroot, brinjal, broccoli, but they did not give us anything that we can survive on, then I decided, we were planting this plant, then I said gents, let us try this and we are going to have a better living, and we experimented here, and it gave us a living, as you see today…It was 2004, 15 July, because sometimes we were going a couple of days without money without food In the house, this plant gives us food, that's why you see it's the only plant we have. If you don't eat you sell it, you get money you buy food"* (John).[77]

6.3.3 *Processing*

At Mtla no processing took place. Hawkers would pick and pack chou-moellier as per their daily requirements. If it was a wet day and the plants were muddied, they would wash them with water from the municipal tap that was located near to the exit of the garden. Hawkers brought their own packets to transport the produce and therefore no packets were kept at the site. John noted that the hawkers were aware that they had to bring their own packaging and they made sure they did (through previous experiences where they had to return to their stands without produce).

6.3.4 *Distribution and Marketing*

When asked about selling produce to retail outlets John described his early attempts to supply to the local SPAR. He noted that for a short period he had sold dhania and spring onions to a shop in Brixton.

> *"Those are my very best customers. They never gave me stress…When you plant green pepper people want their own price. You know tomatoes, when they get ripe people want to buy the crate for R20. You think a person can spend their time, five months, to make R20? We end up giving them away, for mahala [free] …How many cucumbers are going to be here, and how*

[77] Personal correspondence, John, 6 April 2012.

many are you going to sell. I compared spinach and this chou-moellier, you can't sell as much as this. Over there was full of lettuce, green pepper. Then the hunger that hit us was unaccountable. All of these things were beaten by the cold. Where do I get money, I had to go out to get money. Then I decided, we sit down, we said, look at that garden, look at that plant. We survive on it. All the garden is dead now, only part that was alive was that place [where the chou-moellier was]. Then we decided it's our responsibility to grow this" (John).[78]

Hawkers I met on site spoke of how much their customers enjoyed Mtla's chou-moellier. The leaves were picked when small and tasted far superior to the larger varieties that they sourced from elsewhere. John told me of how farmers would sell broccoli or cabbage leaves as chou-moellier and of how different the taste was. The hawkers I met came from Hillbrow and from the local area. Some sold to households in the area by walking from house to house. The hawkers from Hillbrow spoke of how it was easy to quickly pack your chou-moellier leaves into a bag to hide it from the police when they would raid the hawker stands. This way produce was not confiscated and money could be made when the police left again. The garden had a limited supply so hawkers kept their source secret from other hawkers. When I asked Joe how it was decided from whose section the hawkers would pick from he noted that it depended on who had produce available. He said that in one day there would be many people coming to pick so there was no shortage of sales. He continued to say that over the busy periods they arranged that each member had a week of sales. For example, Joe would get one week to sell, followed by John, and then by Emmanuel (Joe).[79] The peak sales period, as indicated by Emmanuel, was from January to April, with four months of high productivity and sales. In May and June it would slow down but there would still be sales.[80]

Kgomotso aged 53 years old was from Kwa-Zulu Natal. She came to Johannesburg in 1983 and had been working as a domestic worker ever since. She noted, however, that times were hard and she could only work part-time as "the job is short". She worked two days a week as a domestic worker and was a vegetable hawker for the rest of the week. On the day I interviewed her she was picking leaves with her daughter who also worked part-time as a domestic worker. Kgomotso walked the streets with a large steel plate of chou-moellier on her head and sold to

[78] Personal correspondence, John, 7 February 2012.
[79] Personal correspondence, Joe, 1 December 2011.
[80] Personal correspondence, Emmanuel, 6 October 2011.

different households. Her daughter sat at a hawking spot and made sales to passers-by. They only sourced their chou-moellier from Mtla (see figure 15). Kgomotso owned a house with her sister in Acherman Street (around the corner from the garden). She walked around Newlands and up to Northcliff with her goods. She would buy a bunch for R14 and made 3 or 4 bunches out of this that she sold for R5 each (maximum of R6 profit on a bunch). She started hawking in 2004 and had bought chou-moellier from the garden ever since then.

Figure 15. Kgomotso gathering a bunch of chou-moellier

From the perspective of the COJ's Social Development Department this was one of their success stories, "It's doing very well because production is good and they are selling the stuff which means they are able to earn income out of it" noted Mr Maseko.[81] He also noted that the problems that other garden projects faced such as no transportation for getting their produce to market were not a problem for Mtla, as their market travelled to the produce source.

6.4 Organisational structure

In 2001, the COJ Social Development directive's Region B social worker at the time, Nomvula, brought together stakeholders and secured land for the proposed project. Their mandate was to assist groups to set up a variety of co-operatives in the region, including primary agricultural co-

[81] Interview, Mr Maseko, social worker, COJ Region B, 2 December 2011.

operatives. "We help them to set up the project. We assisted with getting people that would start the project and then provided them with land. We linked them up with the department of sports which is in charge of that land" (Mr Maseko).[82] Mr Maseko spoke of how he and his department had gone to great lengths to try to get the group to register as a co-operative but that for some reason they had not yet done so. John and Joe spoke of how difficult it was to find the right people. They would often speak of the people who had come in the past to take up the fifth membership position that was required for the registration of the co-operative. They would never stay, mostly because of the hard work involved and limited financial return. People would come expecting remuneration but that was not possible, and they would have to work for a long period before any income could be realised. When I asked John about the people who came to fill the position he stated: "They come and go. They want to come where there is something. Why can't they go where there is nothing? The TDC put James there" [83] (referring to the vacant area that was overgrown with weeds).

The TDC also advised them to split the land between the members:

> *"The advantage of that is if a person has his own piece of land you won't have a situation when others are dragging their feet. If you are responsible for this piece of land you will be exposed. Not necessarily on all projects. Only where we see some are not pulling their weight. That is one of the main disadvantages of co-operatives. If some are not working hard enough whereas others are and when it comes time to reap they want and it causes friction"* (Mr Maseko).[84]

John expressed similar sentiments with respect to co-operatives when he noted:

> *"I can't work here 6 to 6 then you come here 12 o'clock, half past one you go. At the end of the day you want money, you can't, it will cause troubles. We have been working together. You see this man here, where is he? There is someone who is working here, where is he"* (John).[85]

[82] Ibid.
[83] Personal correspondence, John, 8 December 2011.
[84] Interview, Mr Maseko, social worker, COJ Region B, 2 December 2011.
[85] Personal correspondence, John, 8 December 2011.

John's comment was directed at Isaac, the fourth member of the group. He continued to express his support for the separate system through further criticism of his fellow member:

> *"He sometimes come here, work thirty minutes and go. He stays the whole week and doesn't come. Then, how is it going to work when you are in a co-operative, that person. That means you will still keep on working on a daily basis. Maybe he comes once a week and he maybe work one hour. But when it comes to money, you see, we have to share it fifty-fifty, that is going to be impossible"* (John).[86]

When asked how the group was organized I was told that John was chairperson, Emmanuel the secretary, Joe the treasurer, and Isaac the vice-chairperson. While they were not yet registered as a co-operative, they still held organizational positions that reflected a co-operative structure. In the past they would call meetings for garden planning and to resolve operational and other issues. Meetings were no longer called as the only people really active on site were always there to discuss any day-to-day matters that might arise. When asked if the garden would survive without Social Development John responded: "It does, where is he now? As long as we get water it does. We do attend agriculture meetings. That's where we get our advice. I also go to other farms around, I take a look, I get advice".[87] This was Mtla's primary source of extension support. The members also learned through experience as was evident from their concluding that, for their environment, growing only chou-moellier was secure and economically viable.

There was no support provided by GDARD or their extension staff. When I asked Mr Tabang, the GDARD extension officer responsible for the Johannesburg city Region B, why there was no extension officer supporting Mtla he noted: "In the city we don't have farming, agriculture, we only have food security".[88] Mtla members attended GDARD meetings and the various agricultural expos and gatherings that took place on a regular basis in the province.

Within this allotment type structure all members, if they worked hard enough, could earn regular income by growing and selling this crop. Ultimately Mtla members were able to make their own decisions about what to plant, when to plant it, and how to sell it. Their success was dependent on their own initiative and hard work, and the resulting benefits entirely their own.

[86] Ibid.
[87] Informal interview, John, 7 February 2012.
[88] Informal interview with Tabang of GDARD extension services at the African Farmers Expo at Nasrec 14th September 2012.

6.5 Urban livelihoods of project members

For John and Joe the Mtla vegetable garden was an important livelihood source. They were at the garden at least six days of the week and saw the work as integral to their existence. Joe's grandfather had farmed in Brits but he himself had never farmed until the day in 2001 when Nomvula from the COJ, what was then Region 4,[89] approached him to start what they called a school garden. At the time of this research Joe was seventy five years of age. He was registered as a pensioner and received R1 140 per month. Even with this financial support he continued to spend almost every day of his life in the garden (see figure 16). The income and asset survey suggested that his pension and the garden were his only income sources. It also uncovered that he had no family network to get support from. He had to fend for himself and his21 year old son who did not earn any income (he was a student). Joe's answers to the income and asset survey indicated that he had no assets whatsoever. He noted that there was no electricity in the 'location' where he lived and said that people who had televisions, fridges, and/or radios had to use batteries to operate them. Every day after work he would wash himself clean (see figure 17) and ready himself for his journey home.

Figure 16. Joe weeding one of his allocated areas

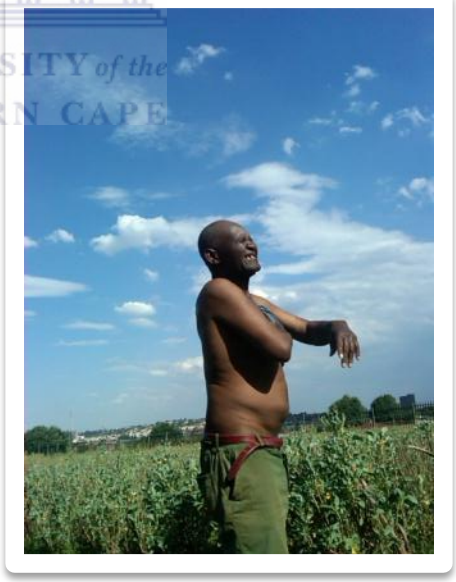

Figure 17. Joe washing himself after a day's work

[89] Today the region name designations have changed and Mtla now falls under the new designation of Region B.

When I asked John what he wanted to be when he was a child growing up he said:

> *"A farmer. This is what I wanted to be in life, and I still want to be. I looked at things that are very important in people's lives. I used to go with a certain white man to his farm…A friend from school. They were growing beans, mielies, some vegetables…I was impressed by the way I see life then I became in love with that. But unfortunately I did not succeed because things changed. You have to go and look for a job. I didn't like working on the farm. I did a little bit. Then I got interested in feeding people and I became a baker, for 15 years. But that farming idea was still in my mind"* (John).[90]

After fifteen years as a baker, John decided he wanted to find a job that gave him more opportunities. He worked in a paint factory in 2002 and in 2003 he was given the opportunity to join the project, the future co-operative. According to John people were called to form co-operatives. He joined Joe and Isaac and the 33 others who had been encouraged to come together. At the time of the research they had been at the project for more than 9 years. During this period John has worked in a number of temporary and contract jobs. Whilst working the paving job for the Rea Vaya project (explained above) John did not visit the garden for the 8 month duration of the project. During the research period John worked as a security guard for a Community Policing Forum (CPF) at a school in Soweto, close to his home. He worked 12 hour shifts from 6pm until 6am and earned R1 500 per month. When I asked him how he coped with working the night shift and then working in the garden all day he noted that guards only had to be aware until about 1am, thereafter they could sleep. In other words, he was able to get paid as a guard, get five hours sleep, work in the garden, and then sleep again in the afternoon before his night shift began again at 6pm.

John and Joe both spoke passionately about the value of working for themselves. They controlled their spaces and made decisions that directly affect their well-being. "No-one is poor" said Joe, "all South Africans have money".[91] John continued, "How can a man say he is poor if he can buy a crate of beer every weekend? How can someone say they are poor if they sleep in the shade? In the winter it is too cold, when it rains it is too wet, too muddy, when it is summer

[90] Life history, John, 06 April 2012.
[91] Personal correspondence, Joe,

it is too hot".[92] They both believed in working hard, and in getting paid for their efforts, especially for their own labour. John commented that he would never work under the conditions that Daniel and Emmanuel did (see Chapter Five) under "those women"[93] (referring to the social workers).

Emmanuel also worked as a security guard though his was a day shift and he could therefore only get to the garden in the early morning or late afternoon. He spent less time at the garden than John and Joe but still kept his section clean of weeds and reasonably productive. Emmanuel had a much smaller section of the garden allocated to him that made maintenance of his space more manageable.

Isaac was least often at the garden. Similarly to Joe he was a pension recipient and therefore was less reliant on the garden as a livelihood. I only saw him working on two occasions and both times he left at approximately lunch-time after having harvested his section of all available chou-moellier, chopping it up (see figure 18), and putting it into a plastic bag for his chickens that he kept in his back yard.

Figure 18. Isaac chopping chou-moellier for his chickens

[92] Personal correspondence, John,
[93] Ibid.

6.6 The wider significance of Mtla

Mtla provides an example of an urban agricultural type that is characterised by what I would like to call an allotment livelihood system. By this I mean that it has characteristics that reflect both the COJ supported community project type model and allotment type systems that can be found in the United Kingdom and elsewhere in Europe.[94] Instead of following the usual co-operative rhetoric of a joint ownership type model, Mtla has evolved into an individual ownership space where some resources were shared but labour and benefits were not. For Mtla members to be successful, they had to put in the labour hours. When the individual was successful (high productivity linked to high sales), all benefits accrued to him and not to the other members of the group. So if a member was not motivated and did not apply himself, he would not have a successful crop and he would ultimately not make any substantial income. The allotment systems in Europe function similarly. All members will be designated equal space and access to water. They then tend to that space and benefit from it as they see fit and according to their inputs (time and labour). The difference at Mtla was that the space allocations were based on decisions made by the members that were based on use and history of the group. For example, Isaac's space had been reduced drastically over the years based on his not spending time at the garden. His section of the plot was overgrown with weeds and had hardly any sellable produce available. While the control of the space was not totally non-discriminatory, for the active members it was clear that the space was only productive because of this system of separation. Perhaps this model could be applied to other urban and peri-urban (UPA) community projects where free-riding is a problem, though perhaps with more regulated specifications for space allocations.

Another important lesson that can be learned from the Mtla experience is how successful they have been with attracting hawkers to the site. This is the result of a well thought out marketing strategy that was learned through the past successes and failures the members had experienced at the site. Their decision to change their production strategy to growing mostly chou-moellier, as was explained previously in this chapter, was based on basic practicalities including the plant's hardiness and low maintenance requirements, popularity, and high yielding and perennial nature.

[94] The three allotment models that were described in Chapter Two of this thesis included the United Kingdom, the German, and the Japanese models.

In addition to these benefits was the attractiveness of the product for the hawker traders and the consequential increases in sales. To get to this point they did not require extension support. In fact, it is likely that extension support would have discouraged growing only chou-moellier and would have suggested setting up a contract with a local retailer for the sale of their produce. Urban resource constrained farmers, if given access to some basic resources (land and water for example) are able to produce for markets successfully and their efforts should be supported and learned from.

6.7 Conclusion

Mtla provides an example of a group of farmers in a suburb of Johannesburg who utilise a COJ space and water resources to secure an aspect of their livelihoods. These farmers are passionate about their work and their product and committed to produce through this means. They manage their own spaces in a form of an allotment arrangement and are highly productive. They have regular buyers, some of whom travel great distances to collect their produce.

Chapter Seven: Mokobobo Farmer's Co-operative

In this chapter I describe and analyse the Mokobobo Farmer's Co-operative (Mokobobo), a peri-urban agriculture (PA) community co-operative, located in the Johannesburg farming district of Nancefield. The co-operative had 53 members and grew vegetables, grains, and fruit. They marketed their produce to local hawkers and to people who passed the co-operative in their cars, in taxis, or on foot. I focus on Mokobobo's history, its organisational structure, the production and marketing strategies used, the contribution of the co-operative to the livelihoods of its members, and the organisational dynamics and tensions. I then assess the wider significance of this case in relation to South African peri-urban poverty, livelihood strategies, and food security.

7.1 Location and background

Mokobobo was located on approximately 30 000 m^2 (3 hectares) of land in Nancefield, Johannesburg. The co-operative/farm was under the domain of the COJ Human Development Directorate's Region G, one of three regions of Johannesburg that had been identified as high potential farm land and where the COJ was implementing their new food resilience strategy (the COJ were focusing on Regions A, C, and G within this the strategy – see context chapter).[95] The assistant director was Mary and the social worker responsible for the project was Tokozani. Tabang was the GDARD extension officer responsible for the area and for the project. He was responsible for the Johannesburg city region (inclusive of Regions B, F, and G – all the regions where this research was based). The land was on lease to the Maren Moses Secondary school through the Department of Education (DOE), a lease that would expire in 2014. The Maren Moses school founders offered the land to the farming community through the Maren Moses Trust on condition that the school children were afforded the opportunity to learn about agriculture and that some of the produce would go to the schools more economically vulnerable families. The school bordered the farm to the south with the Kliprivier located along the northern border. There was vacant land to the west and an abandoned farm to the east that, according to the members, all belonged to Johannesburg Water.[96] Mokobobo was not far off of the main arterial road that linked Orange farm to Johannesburg and therefore was popular with

[95] Interview, Wandile Zwane, Director of Social Development, COJ, 4th October 2012.
[96] http://www.johannesburgwater.co.za/. Accessed: 4th February 2013.

bakkie traders who passed on their way to or from Johannesburg Fresh Produce Market. The farm was fenced though not at the northern river border which consisted of marshland and reeds. The farmhouse had been refurbished and three of the members lived on the premises. An ablution block and meeting room were built through sponsorship received from the DOA.

David and Jonathan both gained interest in farming through the interactions they had on their family plots during their teenage years. In 1993 they both lived in the informal settlement of Thembalihle, commonly known as "Thembalihle Homeless Residence" (David).[97] Their common interest in farming brought them together to start a local garden on vacant land near to their homes. Through this initiative they were approached by the Health Department's health promoters and asked to develop further gardens at the local clinics and community centres. They "gave advice to start home garden in small place, make seeds. In early 1993 I started at home. Late 1993 I went to a meeting with a developer. They said if we give you support with the projects will you help…In 1996 we formed Thembalihle Farmers organisation. We were tired of working like that. We looked for our own place" (David).[98] Jonathan stated that he wanted a job that he could grow old in and that he "really had a passion for farming" (Jonathan).[99] Prior to this Jonathan had worked on the mines in Carletonville and from their learned to knit through the support of one of the white managers of the mine. This manager took a liking to Jonathan and helped him to purchase his first knitting machine. Jonathan noted that he made a reasonable living making jerseys for people until the day came when his weakened eyes became so bad that his business began to suffer. The garden was a space he could work in at his own pace even with his failing sight. David had been working in temporary jobs for many years and finally found a more permanent and satisfying position at the Food Gardens Foundation.[100] Through this post he travelled to different clinics and community centres around Johannesburg to develop gardens.

In 1996 David and Jonathan, whilst working on their communal plot in Thembalihle, decided that they wanted to take advantage of the land claim process to access more land to grow food. They were joined by Joan who lived nearby and who had taken an interest in their garden and they together formed the Thembalihle Farmer's Association. "After forming that co-operative

[97] Life history, David, 4 April 2012.
[98] Ibid.
[99] Life history, Jonathan, 28 July 2012.
[100] http://www.foodgardensfoundation.org.za/. Accessed: 4th February 2013.

we started looking, then we struggled to find land 97, 98, 99, people said 'hai, this is shit'" (David).[101]

> *"Till 2003 I get this piece, but borrowed by the school - the school was leased this place to develop for disadvantaged families. Say they must come and do this job they must make this something. But all the people say you can't work without money…This place they had stopped. DOA had already put borehole and container. What was not here was only the fence and this house renovated. This house was for the school, the container and borehole for the project. DOA bring the wire and said 'if you can make it yourself you can put it for yourself' [referring to the fences on the eastern and western borders of the 3 hectare plot]"* (David).[102]

In 2007 the group registered as a co-operative with the name Mokobobo Farmer's Co-operative. Mokobobo means 'temporary' and was the name decided on by the members when they were denied use of the name Thembalihle (the name was already taken by a co-operative in Mpumalanga Province). In 2010 a new group of people joined with the co-operative. The new group referred to themselves as shareholders and held a different vision of how they thought the co-operative should be operated. They began to claim a different status to the original member group and this is where conflicts originated from.

There were seven tunnels on the property, four covered with plastic, and three with shade cloth. Some of the plastic covers were in disrepair and one tunnel was totally without its plastic covering. Seasonal vegetables were grown in the tunnels and sold to hawkers who arrived at the property on foot. Some produce was sold to small informal retailers who collected in bakkies or motor vehicles. The tunnels were fitted with DICLA hydroponic irrigation infrastructure though this was no longer functioning. In the past the open fields had been planted with onions, cabbage, peppers, potatoes, mielies, and varieties of pumpkins. Borehole water was used for irrigation and an extensive system was in place but was not fully functional. A refurbished Fiat Tractor was bought by the project through funds provided by the Gauteng Entrepreneurial Propeller (GEP) but had been broken and parked in the meeting room since its arrival in December 2011.

[101] Life history, David, 4 April 2012.
[102] Ibid.

The farm at 3 hectares would not be considered large when compared with current commercial agricultural trends.[103] The tunnel space, however, was substantial and if properly managed and planted could produce high yielding crops that could have supported a viable agri-business venture. Over the summer period of 2011 to 2012 tomatoes were planted in two of the tunnels and earned the co-operative some income (no sales records were provided and no-one was prepared to give an estimate of the sales value).

7.2 Early observations and impressions

During my preliminary intensive phase, I attended a seminar on the African organic sector convened by the DOA, Forestry and Fisheries (DAFF), the DTI, and the South African Organic Sector Organisation (SAOSO). At this seminar I met Sister Angelika who worked for EcoHope[104], a faith based organisation located at the Wilgespruit Fellowship centre in Roodepoort. In the question and answer session of the seminar Sister Angelika made a controversial statement that distressed many of the attendees. She stated that in her experience, the organic sector had not made it possible for her farmers (poor black farmers) to access their markets. She said that they could not document their production activities and would fail to meet the stringent requirements of a certification process. Ultimately she made the point that her farmers were organic producers but that they could not access the benefits of the organic movement because of their lack of resources and ability to abide by the sector's requirements. I approached her to ask if I could visit her projects. We made an arrangement to meet at the Wilgespruit Fellowship centre to discuss her projects and the history of EcoHope's work in the field of organic agriculture and community support.

The seminar had a component that dealt with PGS and their ability to support less resourced farmers with accessing organic type markets. It was not dealt with extensively but did fuel some interest from the development organisations present. While Sister Angelika had seemed interested in the concept it was clear that the session had not made the impact that it could have. A PGS, as was explained in the context chapter, could provide marketing channels for Sister Angelika's farmer groups and I was of the opinion that I could support her in achieving this goal. The meeting at Wilgespruit was informative and gave Sister Angelika an insight into my

[103] GDARD notes that Gauteng's average smallholding is 8 hectares (GADS, 2006:28).
[104] http://www.wilgespruit.com/page20.html. Accessed: 4th February 2013.

interests and viewpoint on the organic sector. When she heard about the potential of PGS she agreed to take me to some of her projects. At first she was hesitant to take me to Thembalihle (Mokobobo) as she noted that there was some tension and that I might not be safe. We visited sites in Flakfontein and Hospital Hill. The Flakfontein garden was named the Banabokomoso project and was a social development initiative. Johannes ran the garden and he noted that for two years he had not received any help from the department. On this small plot Johannes grew peaches, lettuce, garlic, carrots, lemongrass, rosemary, Swiss chard, and rue (among other things). While it was of interest it did not impact on enough people to warrant further study. The Hospital Hill garden was also run by an individual and for a similar reason to Banabokomoso did not draw my attention.

When driving in to the Mokobobo site I was excited at what I saw. It was large, it had tunnels, it had sprinklers running, and it seemed to have people. Sister Angelika introduced me to Jenny who showed me around the farm. In the distance I saw people working on a compost heap. I thought I had finally found a community project at scale that was farming using organic principles. I then met David and recognised him immediately. He had chaired the Abalimi Inqubela Forum held at Bambanani on the 18th August 2011 where I had met John, Joe, and Emmanuel from Mtla Vegetable garden. He was happy to see me and I immediately felt welcome at the site. We walked the property and he showed us what they were busy with that day. He then showed me the DICLA irrigation system and explained how it had not worked for some time and how no-one knew how to fix it. I offered to try to source an operating manual and asked if I could call him if and when I found it. He gave me his number and said I should return when I was in the area.

I returned to the site with the manual some weeks after this first visit. During this visit I described my research focus and explained why their project would be of interest to my study. I said I would offer my labour in exchange for documenting aspects of the project. David agreed that I could visit the site on a weekly basis and that I could assist with the work as it pleased me.

The first day of my intensive phase at Mokobobo consisted of a trip to the bank in Lanseria, a visit to a nearby farm to buy ‘ubisi’ (milk), and digging part of a trench next to one of the poly-tunnels. I arrived at approximately 8am dressed in my work clothes and boots, ready for hard

labour. I was greeted by David and Jonathan, both in their travel clothes with bags over their shoulders. David said that they were going to Lenasia to the bank as they had an appointment. It was clear that the intension was for me to lift them to the bank so I obliged. I learned that every three years the signatories of the co-operative's bank account had to sign a document declaring they were still constituted as a co-operative. If there had been any change in the structure they would be required to report it.

On the way back to the farm Jonathan kept on asking David about the 'ubisi'. Again I obliged and we turned off to a farm that sold milk. The farm was called Pyramid Farm and was owned by Abdul. K. Denath. The farm milked their few cattle and catered for Muslim slaughter practices. Mr Denath stated that throughout Gauteng his organisation slaughtered 10 000 Sheep and 1000 cattle and distributed them to the poor. He described how it was a religious duty that should be practiced by all the religions, but that no other religions practiced it. They had been on the farm for the past 22 years. The cattle grazed in camps and the veld was managed on a rotational basis, though they did need to buy supplements and dairy meal. They had run out of milk for the day and we ended up stopping at a spaza shop to buy milk and a coke.

When we returned to the farm we started with the labour. I worked with David and Jonathan went off to assist the other members who were at work in the tunnels. The plastic of some of the tunnels had torn and some of it was burned. David said that they had bought a new roll of plastic for R6 000 and that the trenches we were digging were to bury the ends of the plastic so as to make it taut over the tunnel. They had to be at least half a meter deep and wide. The work was difficult but it gave me time to speak openly with David and to listen to his stories.

For the following six weeks I worked with David and sometimes with Jonathan, Joan, Jeremy, Gabriel, and/or Raymond. Each visit I tried to engage with different project members to try to understand the project from their differing perspectives.

It was clear from the start that there was considerable disagreement with respect to production practices. My original perception was that the co-operative was inclined toward organic agricultural principles. On further observation I was forced to question the source of fertility and pest control. Firstly the compost heaps did not look to be correctly made to properly decompose the matter that had been put on to them, and secondly, they were just too small to provide for the

space that was tilled and ready to be planted. Jenny, when planting green pepper seedlings placed what she called 'salt' into the holes into which the plants were planted. Later I discovered that this 'salt' was not a certified organic fertiliser. On questioning this David told me that he wanted to practice organic principles but that the rest of the members did not think it an option. They wanted to become a commercial enterprise and this could not happen, according to them, using organic methods (they kept this from Sister Angelika but she was clearly aware that they were defaulting).

During the following week's visit I found that almost the entire green pepper crop had died. Raymond said that it was Jenny's fault and that she had no idea about how to farm. She had placed the fertiliser too close to the root systems and they had burned. This was the beginning of my journey to understanding some of the conflict at the site. While David was the chairperson he did not have full control over the operations at the site. It seemed as if there were members who were of the opinion that they knew best what to do and that David was not able to direct any of these conflicting energies into productivity or higher yields.

I had heard from David that there were two groups on site, one working during the week and another working on Saturdays. The Saturday group were the new members who all had jobs that made it impossible for them to work at the farm during the week. According to David they would come to the farm on a Saturday, they would harvest product (see figure 19), and they would then sell it to their networks of consumers. During my fourth visit to site I met Michael. I had not seen him before and therefore decided to try to engage him in conversation. He seemed offended by my presence and I began to feel uncomfortable. Finally, when David went away to collect tools from the storeroom Michael spoke to me more openly about his concerns. He told me that it was not right that I had not spoken with the chairperson about conducting research at the farm. When I told him that I had spoken with David who was the chairperson he proceeded to tell me that in fact there was another lady by the name of Mavis who was the chairperson. He said that in a co-operative there was not one leader and that I should rather get permission from the members of the co-operative. I was taken aback as I thought I had correctly followed protocol. I promised to call Mavis to apologise and to arrange to meet with her. Fortunately Mavis was not offended that I had not contacted her and she agreed to meet with me the following Saturday.

Figure 19. The 'new' members harvesting onions

Figure 20 below provides a breakdown of the actors who are engaged with the Mokobobo Farmer's Co-operative.

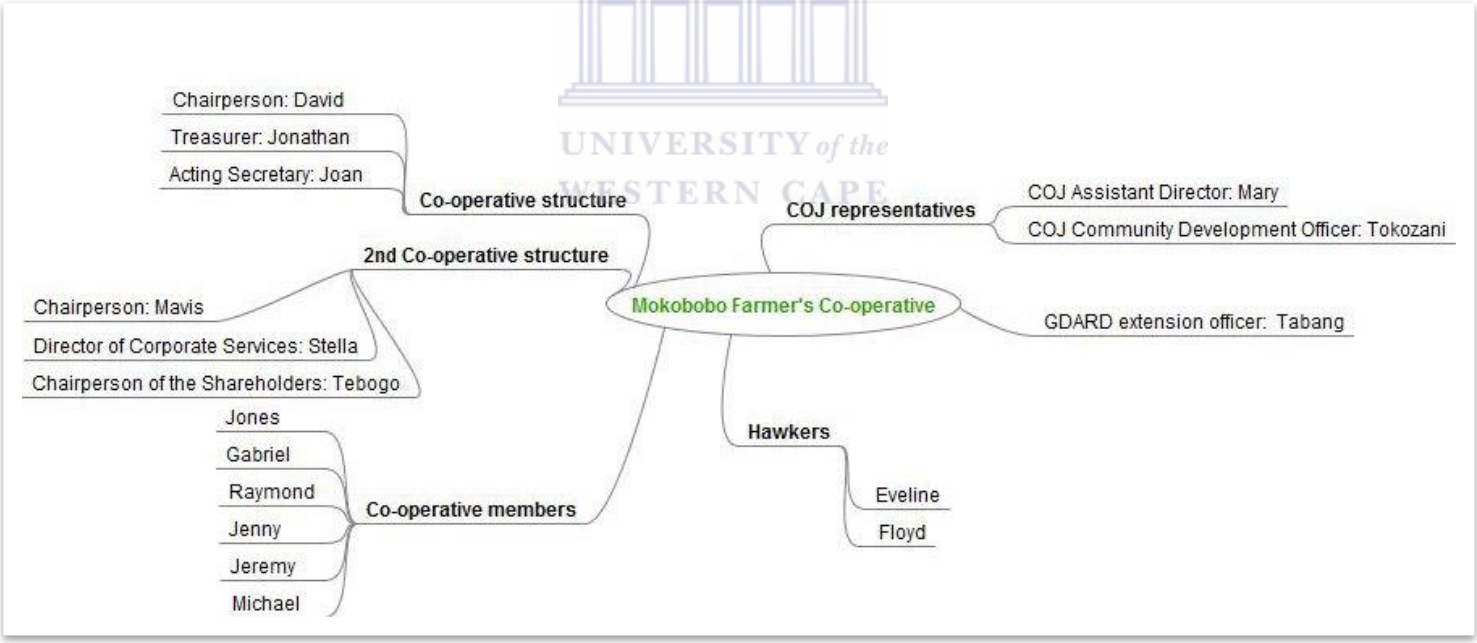

Figure 20. Mapping of actors at Mokobobo Farmer's Co-operative Region G

7.3 Production and marketing in the Mokobobo Farmer's Co-operative

As a component of my intensive analysis I documented the nature of the production and marketing system of Mokobobo in relation to the following components: inputs supply and labour regime, production, processing, and distribution and marketing.

7.3.1 *Inputs supply and labour regime*

According to David, all members of the co-operative were meant to contribute toward the functioning and success of the co-operative. For David this meant labour and time on the job. During my intensive fieldwork phase at Mokobobo there was a system in place where approximately 8 of the members would work from Monday through to Friday and roughly another 8 would work on the Saturday (member's own labour contributions). The weekly workers were generally the older people, those who were called the 'original' members. The Saturday workers were referred to by David as the 'new' members. The weekly workers would plant, weed, water, harvest, sell, and complete general maintenance tasks. The Saturday group would generally only harvest and sell. During the week they would take produce orders from friends, family, and would harvest and deliver these on the Saturday and sometimes on a Sunday. The money made from these sales was to be put into the co-operative's bank account. How the different member groups and individuals within those groups would benefit from their labour input was not clear and was not uniform. The general understanding was that the weekly workers would get a meal at lunch time and a monthly stipend. The stipend was paid for a few months at the end of 2011 but since then had not been forthcoming though the daily meal had continued. The weekend workers also received lunch (they would have to make it themselves with the ingredients that were made available by the weekly workers) but could not claim any stipend (not even during the period it was paid). All money made from sales during the week and over the weekend was to be recorded and deposited. Conflict arose when records of Saturday sales were not provided to the co-operative's weekly members (the 'original' members) and they began to question the whereabouts of the income.

When urgent tasks needed to be completed labour was sourced from the membership's network of friends, family, and acquaintances, sometimes only in exchange for a meal and packet of produce to take home (labour in exchange for food). Occasionally Community Work

Programme (CWP) or Expanded Public Works Programme (EPWP), here referred to as government support labour, was assigned to work at the farm, though this only happened prior to the conflict between the two groups (Jabu, who would coordinate such activities had not visited or communicated with the members since the onset of the conflict - members noted that Tokozani only existed in name. I later found out that he had stopped visiting the farm when the on-farm conflict between the members began at the end of 2010). Grading and ploughing services were provided by a private company through their CSI programme.

The lease on the land was to end in 2014 and, at the time of my research, David was in discussions with Anna Makhwejade, the Maren Moses Secondary school's Principal, to renew it. I had met with Anna on the 16th November 2012 to discuss the project and to ask permission to do research there. Anna described the relationship between the co-operative and the Trust and noted that it was likely that the lease would be renewed. She did emphasise, however, that the school would like to increase their engagement with the farm and introduce more agricultural training for their learners. The Maren Moses Trust had considerable influence over the co-operative to such an extent that they were able to get them to relocate the thirteen cattle that Mokobobo had been caring for (two were their cattle and the rest belonged to their neighbour at the time) due to the manure odours that the school had complained about.[105] While the Maren Moses Trust was supportive of Mokobobo and their farming efforts they still had considerable power over them and could consent to drastic changes as it suited them. While I believed they would not do so without carefully considering the fate of the members, the danger of something like that happening was there and resulted in a rather tenuous occupancy dynamic.

The farm was well stocked with basic manual labour tools such as forks, shovels, rakes, hoes, and wheelbarrows. There were also a number of seedling trays and potting materials. These resources were all bought with funding sourced through the DOA, GDARD, GEP, and COJ. There was also an extensive irrigation system linked to two boreholes that had the capacity to reach most of the farm surface area. In addition there were two Hunter XC DICLA irrigation systems each with two 10,000 litre water tanks and mixing units that were linked up to the tunnels. This was all donated to the project by the DOA. Unfortunately the DICLA units had not functioned since the first season of using them and were standing in disrepair.

[105] Personal correspondence, David and Sister Angelika, 30th August 2011.

Consequentially, all tunnel watering was done by hand with a hose linked to the municipal water line. All water expenses were paid for by the COJ though the electricity costs were paid for by the co-operative through a meter system.

Tractor implements including a Mouldboard plough and landscape rake were all left on the farm from the previous owner, as was a bakkie that had been subsequently vandalised and stripped of parts. The bakkie was later sold for scrap for R1 500. The refurbished tractor stood unused in the garage though there was hope that members would learn to use it before the next maize season.

Various seed types were saved including pumpkin, Swiss chard, and Chinese cabbage but in general seed was purchased along with seedlings according to Mokobobo's seasonal planting requirements. Seedlings and seed were occasionally provided through donations from the DOA and COJ or from the more wealthy members. In addition EcoHope provided seed when they had stock (they delivered to all the projects that they supported). For example, in August of 2012 they delivered two pockets of potato seed for the 2012 spring planting season at no cost to Mokobobo.

Fertility and pest control had been a problem at Mokobobo for at least the previous two years. EcoHope had trained David and some of the 'original' members in organic farming principles and they had practiced these to the best of their ability. Mothlatsi Everest Musi lived across the river on a farm registered under the name: Perseverance Agricultural Co-operative. He had been growing a 1 hectare trial crop of GMO maize for the past 5 years and was passionately involved in the South African GMO debates that had been instigated by various anti-GMO groups (*Appendix VI*). He spoke to me of the struggles that Mokobobo faced and of how they had been back and forth between chemical and organic fertility and pest control solutions (Mothlatsi).[106] David over the years had taken Mothlatsi's advice but he has not been able to adhere to the stringent requirements that such chemical applications required. The soil composition was sentiment to this irregular and uncoordinated fertility regime. Of the three projects Mokobobo had the highest pH levels and it was recommended that they improve the soils through an application regime of ammonium sulphate.

[106] Personal correspondence with Mothlatsi Everest Musi, 25th September 2012.

On the 16th February 2012 I found Mokobobo with an insect infested eggplant crop (see figures 21 and 22). David did not know what to do and asked me to look at the chemicals he had in his store room to see if they could remedy the problem. He gave me two bottles, one that was called Aviguard and another Chlorpyrifos 480 EC. I did some research and found that the Aviguard was for use in poultry and was not relevant for Mokobobo's needs. Chlorpyrifos 480 EC, on the other hand, was described as a moderate toxicity insecticide[107] and would most likely have been suitable for application to deal with the problem. I did not intervene as I wanted to see if David could deal with the problem through the channels they would usually follow. Unfortunately the eggplant crop did not survive and a loss was made on the crop.

Figure 21. A damaged eggplant plant

Figure 22. One of the decimated rows of eggplant

To enhance fertility Mokobobo collected chicken manure from a neighbouring farm and added it directly to the beds. I tried to explain that it would be better to compost the chicken manure before adding it to the beds but was told that the process would take too long and that they needed to add fertility immediately. While there were some small heaps of waste that resembled compost heaps they were not properly made or managed and indeed were much too small for use on the property. The members noted that compost making was too labour intensive and that it was easier to just add fertilisers. In reality, however, the active farm members were not able to

[107] Chlorpyrifos is a broad-spectrum organophosphate insecticide with contact, stomach, and respiratory action. Its moderate toxicity used for control of cutworms, corn rootworms, cockroaches, grubs, flea beetles, flies, termites, fire ants, grain, cotton, field, fruit, nut and vegetable crops (http://www.tlongagro.com/news_en/images/100832_1.pdf).

follow the application regimes and therefore merely perpetuated the soil instabilities and consequential crop failures.

Another example of this could be seen from when the group were preparing to plant their 2012 spring potato crop. The co-operative had paid Mothlatsi to plough the area to be planted. They then tried to gather information on how to deal with the potato pests that had decimated their previous season's crop. Mothlatsi wrote me an email to request advice and stated that if I could not provide them with the information he would supply the co-operative with the chemical treatments that he was familiar with. I forwarded the request to EcoHope in the hope that they would offer assistance. Sister Angelika responded[108] and provided some suggestions including:

1. *Can they mark out the area they wish to use for the potatoes? They should then put all soil of their 2or 3 compost heaps onto that land. I shall bring them a few bags of horse manure they should work into the soil with hoes. They have also got wood shavings. Ca 10 wheel barrows full need to be worked with spades into the soil.*
2. *They need to get dry grass or reeds ready to cover the soil between the plantings. The added manure should correct the pH. Once the young shoots have emerged they need to water the plants with comfrey and nettle that has been placed into water for 10 days. They will then use 1l of the mixture per 10 l of water. This liquid makes the soil fertile. Once the potatoe shoots are emerging they should plant between marigold, beans, esp. garlic also peas, water melon. When they have finished with the potatoes, they need to cover all soil that has been opened and make as many compost heaps as possible to cure the top soil.*
3. *I shall consult somebody re. stalk borers, etc. and then contact you again.*

Further correspondence with Sister Angelika about her interactions with Mokobobo revealed that she had decided to only assist the group further if they were to approach her directly. Through her work with EcoHope Sister Angelika had been involved with Mokobobo since their inception in 2003 and even before this from 1996 when some of the members worked in a garden in Thembalihle garden. She had assisted them throughout this period and through a number of instructional workshops had taught them a number of organic techniques that ought to have

[108] Email correspondence with Sister Angelika, 29 September 2012.

provided them with a solid organic knowledge base to help them through any agricultural crisis. This potato planting exercise should have been part of their agricultural repertoire and Sister Angelika knew this. The co-operative now needed to take the initiative and solve problems with the knowledge she had imparted to them. To me it appeared that there was disagreement among members as to what it meant to be a commercial farm. Many of the group saw the GM maize crop across the river, managed by Mothlatsi and treated with chemical applications, as a model of commercial agriculture. More machinery and increased input use, for them, was what made a successful farm (the farm definitely appeared to be more productive). The organic methods suggested required a great deal more effort (making compost heaps and liquid fertiliser preparations etc.) and, particularly for the older people, was not practical.

7.3.2 *Production*

Mokobobo were not totally ineffective when it came to productivity and in reality were able to farm certain crops reasonably well considering their limited resources. Their 2011/12 summer tomato crop was a success and their daily Swiss chard sales over the same period were constant and consistent. The types of product produced in the past at the site included: tomatoes, Chinese cabbage, kale (*Brassica oleracea var. acephala*), cabbage, Swiss chard, potatoes, green beans, pepper varieties, eggplant, carrots, maize, pumpkins, amadumbe (*Xanthosoma*), chilies, plums, apricots, and peaches (this was what was listed though it is likely that other fruits and vegetables had been planted in the past).

7.3.3 *Processing*

All produce that was sold to customers (hawkers, retailers, and individual buyers) was usually washed and bundled or placed into recycled packets (retail outlet packets) that were either brought by the buyers or else that were collected by members. Tomatoes were sorted, cleaned, and packaged as was appropriate for the different buyers.

7.3.4 *Distribution and marketing*

On the 18th January 2012, when I visited Mokobobo for the onset of my second phase of intensive research I found Joan sitting on a stool under a tree with a cloth in hand cleaning ripe looking tomatoes. She had tomatoes all around her of different sizes and colours. Jeremy was

on his haunches sorting the tomatoes into piles based on their size, colour, and quality, placing them near to Joan's feet. Joan would then wipe the tomatoes, remove any remaining stalks, and place into a box that when filled would be placed into a larger blue plastic container (see figure 23). I was told that two of these containers had been ordered, each containing eight small boxes worth of tomatoes and costing R240 per container. They were also filling a large pot with the less uniform tomatoes, and even with some less fresh looking ones. I was told that this container would be given to the school for their soups and stews. On returning to the house for lunch I came across another of the blue containers that was filled with small nylon pockets of tomatoes. These sold for between R5 and R10 each and were sold to individual customers who visited the farm especially to buy their tomatoes. I was told that the whole community knew about their tomatoes and would come from as far as Lenasia and Zacharaya Park to get them.

Figure 23. Joan cleaning tomatoes

On the 30th January 2012, almost two weeks after observing the tomato sales I found Joan in the same stool under the same tree with roughly the same amount of tomatoes surrounding her. This time I met a retailer by the name of Floyd, who had come to collect his order in his car. He told me that when tomatoes were available he would collect from the farm twice per week. He paid R160 for the same blue plastic container full of tomatoes, though this time with ten boxes worth of tomatoes instead of eight. The price per box had gone down from R30 to R16. Joan told me that the price was based on the daily market price and on the grade of their harvest. Other

retailers from Lehae, Lenasia, Zacharaya Park, and other nearby residential areas had seasonal arrangements with Mokobobo for certain produce. They would call David in advance to order and to confirm availability.

Most of the produce was sold on-site and there were therefore no transport requirements. Produce was harvested and sold on the same day and therefore no storage was necessary. Hawkers either pre-ordered produce by either calling David or sending him an SMS (mobile phone message) or they were informed of the availability through the network that the members had with the hawker community. They then walked or travelled in a taxi to the farm to make payment and to collect their purchase. On the day I met Floyd I also met Eveline, a hawker from Zacharia Park, approximately 4kms south of the farm. She had walked to the farm to collect two boxes worth of tomatoes that she put into a large plastic bucket (see figure 24). She paid R50 for this purchase. In comparing this sale with Floyd's it was of interest to note that Eveline had paid R25 per box whereas Floyd had paid only R16. On further enquiry Eveline told me that she wanted 1st grade tomatoes and R25 per box was what she was prepared to pay for them. David later told me that there were limited 1st grade tomatoes remaining and Floyd had asked for the 2nd grade stock. In addition, he said that the price was also based on quantity bought, and that Floyd was a regular customer who paid a 'special price'.

'New' members would harvest produce based on the orders they had received during the week. They would then transport the produce to their homes by taxi or in their cars (those who had their own vehicles). In addition to these sales, school teachers would often send their students to the farm to collect produce (usually Swiss chard or Chinese cabbage or whatever was available). Even though most income was generated from the larger sales made to the bakkie traders these regular small sales through members, to hawkers, and to teachers provided a regular stream of income when large harvest potential was low. When there was excess produce that could not be sold through any of these channels, one of the members would push a wheelbarrow of the produce to Lehae, the nearby informal settlement, to one of the spaza shops. The distance to the shop from the project was approximately 1.5 kilometres and was understandably not the most common of sales options.

Figure 24. Eveline with her bucket of tomatoes preparing to depart

7.4 Organisational structure

The Mokobobo Farmer Co-operative was registered as a co-operative on the 13th March 2007. Their Standard Industrial Classification was stated to be: "AGRICULTURAL. TO CARRY ON FARMING & INDUSTRIAL OPERATIONS. TO ENGAGE IN POULTRY FARMING & DISPOSE OF THE PRODUCTS THEREOF VIZ EGGS& LIVE CHICKENS, PIGGERY ETC" (*Appendix VII*). David noted that there were over 80 members when they first registered. David, Jonathan, and Joan were registered as the three signatory members. The group's co-operative status made it possible to access funds from the DOA, GDARD, GEP, and other DTI affiliated organisations, funds that bought tools, irrigation equipment, fencing, various production inputs, and a second-hand tractor. During an informal discussion I had with GDARD extension officer Tabang in September 2012 he noted: "Mokobobo is emerging farmers. That's why we actually assist them".[109] The most recent support sourced by the co-operative was in July 2012 and consisted of CSI funding from a local business (the source asked to remain anonymous) billed at R72 800 for clearing the open fields of weeds and debris.

[109] Informal interview with Tabang of GDARD extension services at the African Farmers Expo at Nasrec 14th September 2012.

Mokobobo operated solely as a co-operative. All decisions were made by group consensus through the legislated channels (special meetings and AGMs). All production outputs were shared by the membership and a reserve fund was kept along with an operational fund. The three signatories, David, Jonathan, and Joan, ultimately controlled the finances of the co-operative through their control over the co-operative's bank account. As the group was committed to following co-operative protocol decisions took time to be finalised and, as a consequence, agricultural productivity was often jeopardised.

As has already been alluded to, I was first introduced to David as the chairperson of the co-operative. Jonathan was as the treasurer and Joan was the acting secretary. I was also told that there were 53 members, most of whom were present at the farm during the weekends because of their other weekday work commitments. I was told that the older people, mostly the pensioners, worked during the week as they did not have weekly work commitments. When I met Michael and he told me that I had not yet spoken with Mokobobo's chairperson, Mavis, I proposed to meet with her. David called me prior to the meeting to try to convince me not to attend. His caution appeared to come from a concern for my safety. Fortunately the meeting was without incident and I was able to learn more about 'new' members and their involvement at Mokobobo. That Saturday morning David was to attend a funeral. It was clear that he was concerned about what was going to be said at the meeting as he decided to rather miss the funeral and join us. There was an air of uneasiness when he entered though in the end everyone was calm and the meeting ended on good terms.

During the meeting the 'new' members told me that Mavis was the chairperson of Mokobobo, Stella was the director of corporate services, and Tebogo was chairperson of the shareholders. They indicated that they had joined in 2010 and held an annual general meeting (AGM) during which the new positions were designated. They referred to themselves as 'shareholder members' and professional people who could run the co-operative as a successful business and according to the legal requirements as per various pieces of revised legislation. "We have also the audit committee as per the public finance management Act of 1999 … they are the ones who help us to produce the financial statement as per the dictates of the constitution. Constitution based on the act no. 14 of 2005. The corporate governance side we use King 3 report or King 3 codes as well

as the new governance act, Act 71 of 2008. That's where our impact is. So that we effect on ethics of the board" (Tebogo).[110]

As 'shareholders' the 'new' member group could direct the enterprise toward increasing external inputs of labour and capital to improve infrastructure, productivity, and ultimately, to increase the benefit to the stakeholders. The 'original' members feared that they would be squeezed out of the project due to their not understanding the new stakeholder talk but also as a result of the lack of transparency that was shown them by the 'new' members. For example a new finance recording system had been introduced by the 'new' members to keep formal records of operations and to better coordinate production. 'Original' members, however, were never shown these records and, understandably, concern and suspicion increased.

David noted that the 'new' members had lied when they registered themselves with the co-operative. "The fault they make, they start with us in 2010 but they said they started in 2007" (David).[111] David described how the 'new' members had tried to stage a takeover but that the AGM had not taken place and that no changes to the organisational structure had been effected. Other accounts held that David had withdrawn R12 000 from the co-operative's account, half of which he had stolen. R6 000 was spent on a roll of new plastic for one of the damaged tunnels which I had observed in the storeroom. The other R6 000 was allocated to the AGM that did not happen. 'New' members stated that David had promised to pay the money back to the co-operative but that he, at that point in time, had only paid back R500 of what he owed.

The problem as I understood it, and other than from the point of view that a coup had been attempted, was that there was disagreement on how earnings should be distributed. The 'original' members, those who did most of the labour during the week, felt that they deserved to be paid for their efforts. Those selling and harvesting on Saturdays, the 'new' members, felt that their education and business acumen should be rewarded and that the time they put in did not have much consequence to what they were to be compensated. How to reinvest capital and how to distribute the wealth was at the heart of the conflict.

[110] Meeting of the board, Tebogo, 3 December 2011.
[111] Life history, David, 28 July 2012.

Subsequently, the 'new' member group joined another co-operative farming group. They still claimed to have rights to Mokobobo but would move on to the other opportunity, at least while the issues could not be resolved. The 'original' member group continued to work with what they had and awaited the 'case' decision (David constantly spoke of the pending case).

> *"But they are afraid of the fraud that they have made. They come 2010, 2011, aha, 2011 when we register, they are all shareholders, they are board members and all this and that. So when we go to there they say no we don't know all that thing. No we say the people arranged with you, they say no, that's a lie. When we come and ask them who, they say it the lady, I forget the name. She says no, we don't know them. They say they know you. She says now there is a fault, let's make it a case" (David).*[112]

GEP and Social Development contact ceased when the police became involved. The GEP had attempted to create a forum where the issues could be resolved but nothing had come of it. I attempted to get feedback from GEP but they would not avail themselves for comment.

7.5 Peri-urban livelihoods of co-operative members

In this peri-urban space both permanent and temporary job opportunities are fewer than what can be found in the more urban spaces of Johannesburg. Informal trading, however, plays an important role in the livelihood strategies of many peri-urban residents. For example, on the main road leading to Mokobobo I would often pass people selling roasted mielies, fruit and vegetables, and even fish. The fish was caught in the Kliprivier that meandered under the main road before passing Mokobobo on its northern border. These fish were hung next to the roadside in clear view of passing vehicles and their passengers, some of whom would stop to buy them. Other employment opportunities included working on farms through the CWP or EPWP or through contract or permanent positions. None of Mokobobo's members worked through such programmes though on occasion CWP or EPWP workers would be assigned to the farm to help with labour tasks.

For most of the 'original' members Mokobobo constituted their main work activity. The older members, David, Jonathan, and Joan, all received a government pension of R1 200 per month

[112] Ibid.

(this was the amount they noted). Their partner's (wives or husbands that were still living) also received the pension of R1 200 per month and some received financial support from family members. Jonathan had four tenants living in his house and they all paid rent that provided him with some degree of financial stability. The monthly stipend of R200 was only in operation for a few months at the end of 2011 and was no longer paid to weekly workers. Food continued to be made on a daily basis and usually consisted of pap (considered to be the staple food for the majority of the black population of South Africa), chicken, and marog (green leafy vegetables). For lunch on the 9th November 2011, my first official intensive phase visit, I was treated to Guinea Fowl, or "chicken from heaven" as Jeremy put it. Jeremy had snares set in the reeds that caught various Fowl types, Hares, and other roaming animals. The bird was surprisingly tasty and I was thankful for the protein after a hard morning's digging of trenches. Members therefore worked for a daily meal, and the hope of future paid benefits.

Jenny, one of the 'new' members, worked with the weekly workers as she could not find work elsewhere. Jenny would work with the men in the mornings and then would be tasked to make the lunch, beginning the cooking process at about 11.30am. To increase her income Jenny would sell dried marog (generally Swiss chard leaves). She collected the older and damaged leaves but also the seeding plants that she would cut up and place on wooden boards (see figure 25) outside in full sunlight covered with shade clothe. She would take the boards into the house at night to reduce the moisture content. When dry she would package and sell at R5 a packet. She said that people liked the dried product as one could store it for long periods and use it when there was a shortage of food in the home.

Figure 25. Drying the leaves.

Jones, otherwise known as 'Rasta', was 29 years of age and a member of Mokobobo. He stayed on the property from Monday to Friday and returned to his home in 'Snake Park' informal settlement in Soweto on the weekends. He was given lunch and occasionally took produce home (for example Swiss chard and tomatoes). Jones told me that every Friday his family expected money and were not always happy when he only brought home produce. When I asked why he continued he said that he could only hope that things would improve and that the members would start to make profits. He said he loved farming and he would continue at Mokobobo, helping the older people to farm.

Most of the 'new' members had permanent jobs that earned them a monthly salary. Mokobobo was deemed to be an investment in their future (a retirement support mechanism). They believed they could manage the farm remotely and visit over weekends, when time allowed, thereby securing their long-term income potential.

7.6 The wider significance of Mokobobo

Mokobobo provides an example of the type of farming activities that are taking place on the urban fringes of Johannesburg (perhaps on the rural fringes of commercial agriculture). GDARD and COJ Social Development considered Region G to be one of the areas where agriculture should be encouraged and supported.[113] While Mokobobo had the potential to succeed there were internal organisational dynamics that hindered this success. My intensive phase observations of the farm operations have led me to believe that the nature of the co-operative model was one of the main factors leading to the farm's limited impact.

The inability of the members to collaborate successfully was largely due to the limited managerial capacity or ability to agree collectively on the short term future trajectory of the farming operations. While there was capital and support possibilities through DTI support organisations and provincial and national agriculture departments, this was not utilised correctly for the benefit of the farming operation.

Another reason for the group's inability to work together was the membership's differing expectations of how members should benefit from their efforts. The general division between

[113] Interview, Wandile Zwane, Director of Social Development, COJ, 4th October 2012.

'original' and 'new' members was based on a division of labour and on how these diverse contributions should be compensated. 'Original' members provided labour for five days of the week while 'new' members did so for only 1 day a week. The decision to pay the weekly workers a monthly stipend was an attempt to justify the Saturday worker's claim that their 1 day a week efforts was worthy of membership to the co-operative and to the long term benefits that would accrue. Their main justification, however, was for their professionalism and business sense (book keeping and managerial experience). Complications arose when records of sales made by 'new' members was not provided to the 'original' membership. Ultimately the failure of this new partnership between 'new' and 'original' members was based on a power dynamic where the 'new' membership wanted to change the working structures of the co-operative but failed. While it was not certain how successful the 'new' members would have been in their attempts to improve the productivity and ultimate success of the co-operative one could postulate that they would have implemented annual production programmes and incorporated more modern farming practices with the requisite technological improvements and reduction of labour requirements.

Mokobobo continues to function in a somewhat rudimentary way with membership numbers now fluctuating at around 10. With the seemingly limited financial viability of the venture for individual members one might ask why they continue to farm. One reason might be due to the fact that most of the 'original' members, and indeed those that are still active at the farm, are receiving government grants and other financial support mechanisms (family etc.). It is possible that these members are satisfied in knowing that they can work each day toward improving their collective capital (as long as the co-operative continues to have a positive bank balance and to attract external funding) without earning financial rewards and still receive a regular monthly pension amount to fund their basic needs. The 'new' members were not in such a position and perhaps were more inclined toward a drastic transformation of the organisation of the co-operative toward a higher dividend model.

Ultimately this example provides some insight into some of the strategies used by black peri-urban residents of Johannesburg to improve their future prospects. Retired people who continue to provide their own labour to farming activities, in particular to the co-operative type model, do so as a form of future security. Either they will reap future capital gains of the operation, or else

they could be given support (food or finance) by the co-operative when they can no longer contribute their labour or time. After all, the 7th Principle to be followed by a co-operative, as stated in the Co-operative's Amendment Bill is that: "Co-operatives work for the sustainable development of their communities through policies approved by their members…all co-operatives are obligated to contribute towards community development in line with the 7th principle" (DTI, 2012:40). If Mokobobo fulfils at least this principle, the Mokobobo community should be provided for.

For more middle-aged residents, there is a desire to upscale and become financially successful. For Mavis and her colleagues this was not possible at Mokobobo though perhaps their next co-operative endeavour would be more successful.

7.7 Conclusion

Mokobobo provides an example of a reasonably large peri-urban agricultural co-operative that has the space, infrastructure, and support to grow produce on a large-scale. They are not fulfilling this potential due to internal membership conflict and limited labour capacity. Even so, they are able to produce sporadic abundance (like during the summer 2011 tomato season), earning some income to contribute to their livelihood base, and supplying local markets with fresh produce that otherwise would be sourced from Johannesburg's Fresh Produce Market.

Chapter Eight: Analysis and synthesis

In this chapter I engage in comparative analysis and synthesis of the research findings reported in the previous three chapters, and relate these to my research questions and debates in the wider literature. My first research question asks, "What are the key features of smallholder vegetable production in Johannesburg, in particular in relation to key components of the vegetable value chain (acquiring farming inputs, securing a supply of labour, organizing production, and marketing of produce)? To answer this question I compare the key features of the three garden projects which form my case studies, and describe how they acquire inputs, secure the labour, land and water needed for crop production, access external support, organise the production process, and market their produce. This is followed by an analysis of the key organisational features of the groups, describing which of these facilitate and which obstruct their social and economic sustainability (my second research question). And lastly, I analyse the long-term prospects of these projects for reducing the poverty and sustaining the livelihoods of the small-scale producers who operate them (my third research question).

8.1 Key features of three community garden projects in Johannesburg

8.1.1 Access to production inputs

Coetzee and van Averbeke (2011:286) find that "a common feature of South African community gardens has been their dependence on external material support", which includes the subsidized supply of tools, seed and fertilizers. This is also the case in all three of the cases in this study, but to the degree to which it is true is variable. I provide an explanation of these differences through a discussion focussed on the three cases' access to working capital and their agricultural knowledge and experience in the agricultural sector.

8.1.1.1 *Access to working capital*

Both Bambanani and Mokobobo had a capital base that was attained through their co-operative status. A component of Bambanani's capital, a combination of prize money and funding support, as was referred to in Chapter 5, was used as working capital that permitted the co-operative to improve soil fertility (through the purchase of organic fertilisers) and purchase seed

inputs to contribute to production. Mokobobo received funding from GEP and the DTI that was in part used to purchase seed and fertility inputs. Mtla did not have joint funds and all working capital would have to be sourced from project members in their individual capacities. Even so, there was limited need for working capital at the project as all seed and fertility was sourced on site.

As Feenstra (2002:104) notes for her study of sustainable community food systems in the United States of America "funding was absolutely necessary to really allow them to get off the ground… the next challenge is keeping it going – the maintenance phase. There seems to be a vulnerable time between start-up and stability, between initiation and institutionalization, in which the project needs particular nurturing." In the South African context, as is evidenced by my three cases, nurturing funding is perhaps even more relevant as the community food gardens are operated mostly by poor people who do not have access to credit for continued purchase of fertilizers and seed.

Instead of providing regular working capital to 'nurture' a particular project, I would propose two options. The first would be that funding is provided for training on low input production methods of essential resources including on seed saving techniques, compost making, and liquid fertility production. The second would be funding for what I will call 'UPA resource facilities', and would be in addition to what was suggested for the first option. These facilities would be located in the different city regions near to where the majority of the community gardens are located and would comprise of a community garden centre where seed are sourced, harvested, sorted, and stored; seedlings propagated; and where fertility products could be processed (compost and liquid fertilizers) for sale or free distribution to community gardens in the region (for example Region B could make use of the Mtla site for this operation; as could Region F make use of the Bambanani site). Through these options community gardens would not need regular working capital support as they would be able to decrease the need for external inputs. This is seen at Mtla where no seed or fertility inputs are required and the members continue to produce without the need for support funding. In addition to providing capacity and security for the projects and their members this would also be a more economical option and more attractive to local government.

Greenberg (2010) proposes a similar intervention and though his proposal is for a rural context and possibly only for maize and wheat seed varieties it could be similarly relevant for these urban and per-urban contexts and for vegetable seed varieties. He notes that "the combination of OPVs (open pollinated varieties) produced commercially by smallholder farmers or, alternatively, saved on the farm by producers for re-use signals a potential point of intervention for more ecologically sustainable seed production, as well as a potentially larger role for smallholder farmers in producing seed. Coupled with the ARC's important public ownership of many seed varieties, there is a good possibility for public action to strengthen non-corporate seed production" (Greenberg, 2010:15-16).

8.1.1.2 *Agricultural knowledge and experience*

Members of UPA community projects gain agricultural knowledge through training programmes conducted by extension officers, civil society farming support groups, through individual training, and through experience. As Pilgrim et al. (2008:1004) point out, often traditional ecological knowledge is "supplanted by modern knowledge or is no longer transmitted." This is clearly apparent in the cases where extension services are present where modern agricultural practices are promoted at the expense of any traditional farming practices that individual members may want to implement.

Both Bambanani and Mokobobo received on-site extension service support where mostly commercial agricultural methods were taught. In addition, both groups had received training from civil society groups who taught agroecological or organic agricultural techniques. Bambanani members were totally committed to the agroecological approach though they still struggled with comprehending the importance of the compost making process that is integral to alternative agricultural practices. For this reason organic fertility inputs were required to improve the soils and these were bought with the co-operative's working capital (as was noted above). While plant rotation and companion planting practices were in operation the knowledge of how best to implement these to benefit future productivity was limited and the full potential benefits of the methods were therefore not realised. Bambanani would continue to follow agroecological principles for as long as they could afford the organic inputs (Bounce Back). If their working capital was to diminish they would be forced to put more effort into compost

production to replenish their soils. Only Peter had formal agricultural training through the courses he had put himself through (see Chapter Five). Most of the courses had an agroecological focus and he would therefore continue to encourage such practices while involved with Bambanani.

At Mokobobo, some members used organic methods as were taught by EcoHope facilitators. Mostly however, agrochemicals were used, especially when these were donated by extension services or other support groups. None of the members took overall control of this aspect of the farming operation and therefore both methods were practiced and sometimes even in tandem. In addition, compost making was limited and soil fertility was therefore not able to recover without heavy input applications. Under these conditions most of the organic methods practiced were ineffective and led most members to believe that chemical options were superior.

At Mtla there was limited external support from COJ and none whatsoever from GDARD and consequently limited agricultural knowledge transfer. Mtla members gained knowledge through the GDARD meetings they attended and through learning from their experiences and experimentation in the garden.

The overwhelming influence of societal norms toward a modern agriculture and the continued support of the government extension services of this paradigm limit the possibilities for smallholders to rediscover their traditional systems or to embark in alternative agricultural practices. Greenberg's findings (2010:16) support this idea. He notes that "corporations provide 'training' to extension officers in the use of their products and then use government extension workers to go out and sell their products". He goes further, stating that a "radical retooling of extension services is required, including a transformed curriculum that enables them to provide technical advice based on sound ecological practices (that is, using natural resources renewably)" (ibid).

8.1.2 Labour regimes

"Very little systematic work has been done on the conditions of labourers on small-scale farms. One view is that the exploitation of household (mainly women and child) labour and the underpayment of wage labour underpin the better per hectare productivity of smallholder

farming. No full survey has been conducted, but anecdotal evidence, or evidence from research in specific localities, indicates that agricultural workers on small-scale farms are often not paid or otherwise paid very poorly – certainly below the minimum wage – and conditions are not regulated by the state" (Greenberg, 2010:13-14). Similarly, this research, though in the UPA community project context, shows that labour is either paid below minimum wages though in combination with other benefits, or is not paid at all, again often in combination with other benefits.

Labour was sourced from a combination of own labour, labour in exchange for food, labour at point of sale (harvesting), 'piece-job' labour, contract labour, and government support labour (CWP or EPWP labour). None of the projects hired any permanent labour and this could be explained by their small plot sizes but also to their co-operative status, where members were expected to provide most of the labour power.

Own labour use, where a member contributes their own labour power toward production, was found at all three sites and was prevalent, though mostly where individuals had most to benefit from their labour. Other reasons for labour choices could be explained through the availability of operational capital and diversity of project membership's income sources and opportunities.

8.1.2.1 *Labour's benefits to specific members*

Each project's relationship with labour could be explained by Bernstein's (2010:94) description of the concept of "self-exploitation" where the "household does not calculate the costs of its own labour in farming its land in the way that capitalist farmers have to incorporate wage costs in their calculations of expenditure and expected profit." If we consider the co-operative (in the cases of Bambanani and Mokobobo) as the household unit we find a similar situation where "self-exploitation" of the individual members takes place to reduce overall expenditure. This is more so in the case of Mokobobo where 'original' members do not have off-farm income sources (other than for pensions). It is preferred that members exploit their own labour capacity before paying for labour and increasing the co-operative's expenditure (the stipend of R150 per month per weekly worker was only paid for three months and was discontinued in December 2011). Mokobobo's productive land was large, communal, and the labour requirements for full production potential were therefore quite substantial. The 'new' member group (when they were

active at the site) wanted to hire contract labour (a productive labour force as opposed to the membership labour that was deemed inefficient) to increase the overall productivity of the farm and ultimately to increase the shareholder benefits.

Of the members at Bambanani only Janette did not have a full-time job outside of the co-operative and she therefore exploited her own labour for the benefit of the group. Janette improved the productivity of the garden, and earned a small daily income from her efforts. The contract labour (Bongani and Daniel) similarly were exploited for their labour power (R50 per day if sales were good) and were enticed to continue providing their labour through the provision of a place to sleep and daily lunch-time meals. Mtla members mostly exploited their own labour power. The more each member improved his production capacity the more he could sell and the more money he could earn. Hiring labour was a last resort as it reduced the financial benefits each member would otherwise accrue by doing the work himself. Prices charged per bundle were greater than the market price due to the value of their labour that they insisted had to be included in the price.

Bambanani members who had additional full-time work commitments benefited from the employment of contract labour without which the garden, their collective enterprise, would have ceased to exist. In other words, non-active members improved their future income potential based on the continued success of the garden. When Janette was active in the garden, she would claim the same wage as what Bongani and Daniel would, based on the sales made for the day. When there were no sales only food was provided. There was therefore an incentive to sell and to improve the productivity at the garden for those labouring but also for the benefit of the collective as some of the income would be deposited into the co-operative's bank account (just how much was deposited and how this was monitored was contentious). Janette's labour in the end benefited the entire group, as well as herself. Where she did benefit further was from the other income generating activities she took part in at the project including cooking the lunches for the weekly meetings, the babysitting, and the car park (car guard) jobs they occasionally engaged in. The labour provided for the garden was one aspect of her livelihood strategy and while she continued to make some extra income from it, it made sense to dedicate some of her time to it.

8.1.2.2 *Operational capital available to the project*

Bambanani had an operational budget that was comprised of the money received through the MTK and Nestle awards. During the last weeks of this research some of this money was used to pay for the contract labour. In the past (during the first phase of the research), labour was paid per day with the income made from daily sales. Mtla did not pool funds nor land resources and therefore did not pay regular contract labour to work for the group. When a member needed assistance with their plot they would use their own capital to fund the labour. For Mokobobo the co-operative's pooled funds, here referred to as the operational capital, paid the stipend that had been paid to the weekly workers. This operational capital ensured that when extra labour was required it could be paid for. On the whole, however, labour was not paid for as members were tasked to do all that was required at the site.

8.1.2.3 *Diversity of income channels and opportunities*

All of Bambanani's members had multiple livelihood strategies. Peter, Gladys, and Margaret's realities all provide examples of this diversity and the relationship with labour. Peter and Gladys contributed with their time and toward decision-making processes, Margaret less so. Rajesh earned income from his cricket coaching job and provided own labour for his allocated sections. Janette also had a diversity of income generating options and this was made clear when the tensions grew at the project and Janette started spending less time at the garden. She was working elsewhere, or selling her home-made products at another location. Janette had been the most active of the members in the garden along with the contract labour. When Janette's presence diminished, the labour tasks were completed by Daniel, coordinated by Peter and Constance. Later, when Daniel also left, Peter and Constance had no choice but to hire more contract workers, again who they had to coordinate and pay from the co-operative's operational capital.

Mtla's members were all earning additional income outside of the project, Joe and Isaac through government pensions and John and Emmanuel through their security jobs. While all had alternate income sources Joe and John in particular continued to work full-time in their sections of the garden. Emmanuel tended to his plot less often though when he did he made sure it was totally free of weeds and well watered. His section was small enough to warrant the limited

labour input. For John and Joe the garden had the potential to earn them considerable extra income and they therefore worked almost every day to keep their sections productive. Isaac, though almost the same age as Joe, was not able to provide the labour required for his allocated space and rarely visited his garden sections. His pension would cover his monthly financial needs and he was therefore less dependent of his section.

The pensioners at Mokobobo provided their own labour power while younger members (mostly the 'new' members) wanted to hire contract labour (as was alluded to above) as they had permanent jobs that they attended to during the week. The impression I got was that they believed that the pensioner labourers were too ineffective and even considering they were a relatively cheap source of labour that they should be replaced by more productive workers who would not also want a share in the profits. When the 'new' members left the project the 'original' members returned to being the main labour force. They continued to operate even with the limited short-term benefits due to the financial security offered by the monthly pension.

These findings suggest that the exploitation of own labour is most beneficial to members who have some sense of ownership of their plot. This self-exploitation can be accompanied by other forms of labour negotiation such as, labour at point of sale (harvesting) or 'piece-job' labour that facilitates greater productivity for the individual plot holder. This is seen at Mtla where hawkers provide their own harvesting labour or when day labour is employed to complete a specific task. Philip (2003:20) observes that "in the context of recurrent cashflow crises, many co-op members sacrifice their own incomes to keep the enterprise alive: but there are only so many times this can happen without it eroding cohesion and fuelling dissatisfaction and conflict." Where benefits to individual members are too thinly spread, such as in the case of Mokobobo where a day of labour only guarantees a lunch-time meal, members will not contribute effectively and productivity as well as group cohesion are jeopardised at the expense of the co-operative and its membership.

8.1.3 Land and water requirements

While the projects were all supported by the COJ Human Development Directorate this support was realised in quite different ways. At each site access to land was secured through this government support: at Bambanani as an extension of Region F's office space and a component of their development programme; at Mtla through collaboration between Region B and the

Department of Sport and Recreational services; and at Mokobobo through collaboration between Region G and the Department of Education. Social development facilitated this access and would continue to ensure that these spaces were used by the groups until such time that the projects failed or if Social Development's development strategy were to change and they proposed a different use for the land (though this could only happen after contractual obligations were fulfilled).

Research focussed on UPA in South Africa suggests that "…substantial peri-urban land is available" to agriculture, "as is legislation to allow people to use it" (Thornton, 2008:255). This would suggest that more government land could be made available for UPA community projects, though only on condition that they were benefiting the people working them in addition to supplementing the food requirements of the people living in their near vicinity. Though it must be remembered that long-term security of tenure in the urban and peri-urban spaces of the city is always uncertain and only those "who are on land not suitable for housing stand a chance of being left alone" (Matlala, 1990). In other words, only marginal lands or lands belonging to government designated for public use (for example: school sports fields, servitudes, steep slopes, and alongside rivers) are likely to endure as agricultural spaces.

In addition to this support, the COJ also paid for the water that was used by each of the projects. Often irrigation systems were left to run continuously and occasionally even overnight. Wenhold et al. (2007:331) describe how food security for people in rural areas of South Africa is impacted by their ability to access water for irrigation. The specific issues they face include the high costs of water, the time taken to collect it, water-borne diseases, and their ability to use the water for crop irrigation (ibid). Water access in Johannesburg's urban development context, specifically for these COJ food garden development activities, was not constrained by these issues and in fact seemed to be an unlimited resource, guaranteed to be safe from contamination and available when needed. For the three cases there was no concern for waste or conservation of water that nationally was under considerable pressure. It follows from this finding that water management in the UPA and food security context is a serious issue that should be seriously addressed when planning future support programmes. A suggestion would be to charge projects a subsidised fee for their water, or else to provide water harvesting infrastructure in addition to training in water management techniques.

Coetzee and van Averbeke (2011: 289) argue that limited access to land and water and insecure land tenure are key constraints on urban agriculture. These findings suggest that appropriate interventions by local government, in this case the COJ, can relieve these constraints.

8.1.4 External support

Webb (2011:205) notes that "since 2000 … higher levels of institutional support for urban agriculture and increased cultivation" have taken place. Webb (ibid) questions the justification for such support based on "evidence that urban agriculture in South Africa does not provide the benefits so often attributed to it" or suggests that development initiatives at a minimum adopt caution "to the promotion of urban agriculture as a path out of poverty." I will provide an analysis of the external support provided to the three cases and the degree to which such support has been enabling or disabling.

Due to the close proximity of Bambanani to the COJ Region F social development representative (on the same property), the social worker responsible for food garden development in the region, more regular support was offered to the group with seed, compost, and mulch inputs, as well as with agricultural advice. In stark contrast, at Mtla the last proper assessment visit from their Region B social worker took place in 2009. At Mokobobo it was at the end of 2010.

Within the Bambanani group most members had become reliant on the support offered by the COJ. While the resources were welcomed at the site it did reduce the need for project member to take ownership of their operation and they had become exceedingly reliant on such deliveries. Janette would harvest seed for future planting but, within the co-operative space, she was an anomaly. Rajesh also saved seed though he did this only for his own sections of the garden. Occasionally Rajesh would give the co-operative herbs and seed from his sections though this would only happen when there was a shortage of donated seed and seedlings and/or when he had excess seed stock.

At Mtla the lack of regular assistance from Region B over the years resulted in members taking full responsibility for input supply. Chou-moellier cuttings were taken and seed saved for future plantings. In addition, where seed was bought, some of the plants grown were left to go to seed that was kept for the following planting season. The group had become so independent of the

COJ's support that they were able to plant when they wanted (for example they did not have to wait for a delivery from the department). There was no period of the year when there were no plants in the ground and the management of their time was their own.

Mokobobo had a combination of support, co-operative purchase of seed and seedlings, and seed saving. Only gourd and maize seed were saved for the following planting season. The project's GDARD extension officer would occasionally deliver seedlings and seed but only when they had stock and according to their support schedule. In other words, when the grounds had been prepared for planting it was not always possible to plant on time as the seed from GDARD might only arrive a few weeks later. Other government affiliated organisations such as the GEP would similarly supply seed, seedlings, and fertilizers. In addition to this support Mokobobo received occasional donations of seed or seedlings from EcoHope. Mokobobo would only buy their own inputs as a last resort, as they were almost always guaranteed support from one of their support organisations.

External support in the form of labour support was made available only to registered co-operatives. This was evident from the more active involvement of CWP at the two registered co-operative groups Bambanani and Mokobobo. In addition, Bambanani and Mokobobo had both received support from the private sector through their co-operative status. At Bambanani this was realised through CSI funding in the form of prize money that went toward operational capital and at Mokobobo through CSI funding support that contracted the tractor and tractor driver to clear and plough the lands for the summer planting season. Mokobobo was also eligible for EPWP support and although they had not yet considered the option it would have provided the extra labour required to maintain such a large production space.

Philip (2003:20) noted that it was "a norm for many development programmes, including poverty alleviation programmes, CSI programmes, and Local Economic Development initiatives to make 'group formation' a condition of funding or other support for income generating or enterprise activities." This is clearly the case for Mtla who are unable to secure external support as are the other groups. Even so, often this support was not of benefit to the members, like where Janette would state that the CWP workers, if not properly supervised, would damage the work that she had already done. Members at one point noted that it was actually better that they

did not help. While Mtla members would likely agree with this, they could have benefited from having the option.

In comparing the three projects it was clear that Mtla was the least reliant on external support and was only really benefiting from the free water and land (both vital to success) provided by the COJ. Other than for these resources they were largely independent of external support. Bambanani and Mokobobo, on the other hand, relied heavily on external support for land, water, seed and fertility inputs. Such support is often quite disabling and results in members standing back and waiting on outside solutions to their problems. Where limited support is offered to projects, members (who have the capacity) solve their own problems and develop alternative success stories. Mtla provides an example of this where they were able to develop a niche product line that was largely independent of external inputs. Bambanani had also developed such a niche product line though this was destroyed when external support structures intervened (social workers making decisions on how and what to plant). Based on these findings it would appear that less external support might benefit UPA community project members. This is not to say that support should cease but that limits on its influence over production and other decision-making processes (marketing considerations that will be dealt with later in the chapter) should be maintained.

8.1.5 Production organisation

When considering the organisation of production I compared the kinds of tools and equipment used in the projects, their irrigation systems, their daily work routines, and when and how pests and diseases were controlled.

8.1.5.1 *Tools and equipment*

Bambanani used hoes, shovels, picks, garden forks, and wheelbarrows. The group had a couple of each that were all kept in a corrugated iron shed. Mtla had two forks, two shovels, and a sprayer knapsack. There was no storage structure and all tools were left hidden in the grass. Mokobobo had a large shipping container for storage of their tools which included approximately ten of each of the following: shovels, forks, picks, hoes, watering cans, hand forks and hand shovels. There were also five wheelbarrows and four sprayer knapsacks. The project

also had a tractor, plough, and rake. While Mokobobo was in possession of the tractor they had still not used it, and were instead hiring tractor drivers with their tractors to plough their lands.

8.1.5.2 *Irrigation systems*

Bambanani and Mtla both used municipal water for irrigation. Both made use of garden hoses that were moved between different sections of the gardens and attached to sprinklers. Bambanani used small garden sprinklers whereas Mtla used larger agricultural standard sprinklers. Mokobobo made use of water taken from two boreholes on the property. These boreholes were connected to an extensive irrigation system that was capable of watering at least half a hectare of the outside planting area at any one time. The tunnels were fitted with two DICLA hydroponic irrigation systems but these were not operational. Therefore the tunnels could not be watered remotely and manual watering with lengths of irrigation piping was required.

8.1.5.3 *Daily work routines*

When Janette, Bongani, and Daniel were active at Bambanani they would work from Monday to Friday from approximately 6.30 am until 6 pm. Most weeding and planting would happen in the early morning with sales happening throughout the day with the peak at around 5 pm and sometimes later (meaning that Janette would occasionally get home after 6 pm). In summer Mtla members would arrive at the project at approximately 5.30 am and would leave at around 2 pm. Though in general members were not held to any schedule and arrived when they were able. Mokobobo weekly workers arrived at 8 am and left promptly at 15 pm. They signed in and out each day and this was checked each day by David or one of the other senior members. The work day consisted of weeding, planting, watering, and/or harvesting. Work parties were formed to complete these different tasks. Lunch was served at around 12 pm and was followed by another two hours of work.

8.1.5.4 *When and how pests and diseases are controlled*

Bambanani did not encounter many pest problems due to their diversity of plants. During the unrelenting rainy season of 2010 they lost their entire tomato crop to disease. Mtla reported to have sprayed Malisol to control an aphid infestation in 2011. Mokobobo had regular pest

infestations that decimated various crops. Organic solutions were requested but in the end chemical treatments were used.

Production organisation was largely based on infrastructure, knowledge capacity, and labour capacity to complete tasks. In the case of Mokobobo, production was centred on infrastructure, knowledge of specific production processes, and having the labour capacity to complete the process. For example, the 2011 summer tomato production was based on their access to three covered tunnels, members' experience of having planted tomatoes in previous years, and the limited labour requirements for caring for the crops that could be completed within the week's allocated work schedule. Quick acting chemical treatments were used when disease or pests became a problem and production levels could be maintained.

For Bambanani, tools, knowledge, and labour capacity were important. Firstly their ability to improve their productive capacity was based on their knowledge of what combinations of plants to grow together, and their ability to improve the quality of the soils. For example their use of mulch increased the water retaining capacity of their soils that ultimately resulted in increased plant growth. In addition, the labour they could employ and direct in addition to their access to tools, contributed to increased productivity.

Mtla's production processes were organised on having limited resource access. They planted a crop that was hardy, perennial, and high-yielding. They used their own labour, and managed crop disease and pests through returning biomass to the soils, and coping with problems when they arose.

8.1.6 Marketing of produce

Thamaga-Chitja and Hendriks (2008:319) note that "if smallholder African farmers can meet certification requirements … they could then gain access to lucrative organic markets." This research shows that potentials do exist to access niche market spaces but that there are other, perhaps more important food distribution channels and markets that need to be supported first. Gauteng farmers have a wide range of marketing options to choose from but only certain farmer have complete access to these. The most common for the large-scale enterprises would be to sell directly to export markets, to the retail sector, or to the Johannesburg Fresh Produce Market

(JFPM). Small and medium-sized farms are also able to sell through these channels though the quantity, quality, and consistency requirements sometimes make this option less accessible. The even smaller farmers can more easily access smaller retail stores like SPAR and local corner shop cafes though this research shows that the most common marketing channels were through hawker traders (on foot and by bakkie) and direct sales to local customers. In general, however, farmers are quite resourceful and access a wide range of market spaces. For example, when the larger commercial farmers harvest produce that does not meet the standards required by retail they will sell this to the bakkie traders instead – in some cases the informal marketing route is more lucrative and is pursued instead of the formal retail channels where the regulatory requirements are too onerous.

The three cases had a combination of sales strategies that included selling to retail, to hawkers, to bakkie traders (hawkers and local retail), and to pedestrian consumers. Mokobobo, because of their larger production capacity (three hectares as opposed to under one hectare for each of the others), had the potential to supply larger consignments directly to retail or the JFPM, though they had not yet secured such contracts due to the onerous standards requirements and production shortfalls they faced. The most important marketing channel for Bambanani was selling to pedestrian consumers; for Mtla it was selling to hawker traders who bought directly from the plot; and for Mokobobo it was from sales to bakkie traders (for local retail and the hawker trade). While these were the most important, multiple strategies provided security in the sense that when one option was not possible another could be engaged in.

To explain why these projects chose the marketing channels that they did I have focussed on the following five categories: project scale; quantity, quality, and regularity; location and accessibility; social relationships and markets; and logistical capacity.

8.1.6.1 *Project scale*

Lipton (2009:65) notes that "in labour-abundant developing countries" there is an "*inverse relationship* (IR)" between farm size and land productivity. Some of the characteristics that support this relationship can be found at these small projects. In the case of Bambanani and Mtla all available land is planted and all labour is done by hand. Members are workers but are also

managers. Efficiency is therefore increased and production levels are potentially high. Mokobobo, though larger than the other two projects is relatively less productive.

As was noted in Chapter Three small farms that plant intensively are able to grow large quantities of produce that should justify their marketability in the formal market place. Bambanani had the potential to grow produce intensively but due to limited labour capacity they were not always able to fulfil this potential. When they were, they would have a reasonably large and diverse summer crop that made individual sales to pedestrians who passed the project the most viable sales strategy. When larger yields of a specific produce type were harvested these would be sold to the formal markets (local retail or corner cafes) that would accept or not accept the delivery (see Chapter Five). Mtla's chou-moellier monoculture was intensively planted, perennial, and high-yielding. Their productivity levels on what could be considered a reasonably small plot of land were considerably high and would warrant access to the formal market place. However, the informal market was chosen for produce sales and formal markets were not pursued (see Chapter Six). The land size and tunnel space at Mokobobo lent itself to large consignment growing and access to formal markets. Even with this potential, Mokobobo sold mostly to hawker traders.

8.1.6.2 *Quantity, quality, and regularity*

None of the cases were able to meet entirely "the demands of the formal sector such as formal registration and invoicing from suppliers" nor the "increasingly demanding requirements" including "volumes, consistency, quality, costs and commercial practices" (Reardon and Hopkins, 2006:530). Bambanani, however, was able to sell to SPAR and Fruit and Veg City though the requirements were largely based on quality and personal relationships with the specific retailers. The money offered through this channel was not much and it was often more lucrative to rather sell to the informal sector.

Other than the small and irregular sales made to retail, Bambanani could not supply consistently and therefore could not engage in large or regular consignment contracts. Even their PGS assurance that had been awarded through the Bryanston Natural and Organic Market (BONM) was not taken advantage of due to limited capacity in terms of quantity and logistical capacity. At Mtla hawkers travelled from some distance to purchase the garden's chou-moellier, a demand

that was based on quality and product variety. At Mokobobo when selling to the hawker and bakkie traders price was negotiated based on quantity and quality and this was usually agreed to over the phone or at point of sale.

8.1.6.3 *Location and accessibility*

Bambanani's visibility from the busy thoroughfare of Bertrams Road and the Rea Vaya Bus Station made direct sales to pedestrian customers a convenient and simple sales channel. Mtla was not on a major road or commuter route making individual sales less common. Hawker sales were more common as they could buy larger quantities than would individuals and transport these to their sales locations. Mokobobo's location, not far off of the main arterial road, was popular with bakkie traders who passed on their way to their respective market places.

8.1.6.4 *Social relationships and markets*

At Bambanani Rajesh's 'Indian Line' was grown specifically for Indian customers who frequented the local SPAR and Fruit and Veg City. His relationship with the management at these stores was what secured him the market. Rajesh was not obliged to meet any quotas and was free to deliver when he had product available. For Bambanani's co-operative space Janette would sell to regular customers who she had built relationships with through their regular visits to the garden for produce. Mtla members had developed personal relationships with a number of hawkers. These hawkers would generally buy from whoever was selling (meaning they would pick from whoever was at the garden that day) though some would buy only from John and others only from Joe or Emmanuel based on their relationship with the individual members. David and other Mokobobo members had developed relationships with a number of bakkie and pedestrian traders. These customers were either called when produce was ready for collection or else they would call one of the project members to request certain produce. In addition, some of these traders were family members or friends of the co-operative members, and would support the co-operative based on this relationship.

8.1.6.5 *Logistical capacity*

Bambanani did not have access to transport and therefore relied on 'garden-gate sales' for produce sales. Rajesh had a car in which he would deliver his 'Indian line' to Fruit and Veg City

and to SPAR. Occasionally Constance would assist with transport and would use her car to deliver produce to the same retail stores. Mtla had no transport for their produce and therefore relied on hawkers visiting the project for sales. Mokobobo relied on bakkie traders for their sales and, if the need arose, would hire transport to get produce to a specific market place.

These research findings suggest that informal markets play an important role for urban and peri-urban producers and for food supply to the city. While access to the formal market sector is promoted it was not always the most viable channel for UPA community project produce. Hawker and individual 'garden-gate' (and 'farm-gate') sales are more consistent and more accessible and should be supported by local government. While PGS systems show the potential for such small producers to access 'niche' markets, transport continues to act as a considerable barrier to entry and will need to be addressed before such access becomes viable.

8.2 Organisational features and their impact on social and economic sustainability

What the perceived advantages of a specific organisational form are, leads certain actors to encourage that specific form over another. How leadership is chosen, how it is maintained, and how it looks on the ground is very different to how it is envisaged by outside actors (government actors for example). Ultimately, tensions and conflict arise within imposed organisational structures that result in hybrids of these structures. These findings indicate that within these hybrid organisational forms, distinctions can be made between those who see gardening for food and/or cash income as a supplement to other livelihood strategies and those who want to develop the project as a fully commercial enterprise. In addition, issues of power and control impact on these forms and distinctions, and are integral to their formation.

8.2.1 Organisational form

For Bambanani the organisational form was the combination of a co-operative and allotment type structures. Mtla was not registered as a co-operative and their organisational form was more comparable with how an allotment system is structured where production is individualized and uses only the labour of the plot-holders, and where some resources are allocated for communal use (water and fencing in this case). Mokobobo operated solely as a worker co-

operative where all production outputs were shared by the membership and a reserve fund was kept along with an operational fund.

The way that these projects were conceptualised was based on a 'community co-operative' type of organisation. Unfortunately the collectivisation of people on one agricultural holding with the purpose of producing a collective group product or set of products (including from processing) often falls prey to common failures of group organisation without any clear structure where free-riding takes place and where complications arise as to who benefits and how they should benefit. Chayanov's (1991) conceptualisation, where smallholder family farmers are linked together, but in effect are separate (i.e. still farming their separate plots but co-operating on other levels) would be in line with an allotment type approach and with Philip's (2003) explanation of user co-operatives. As was found in this research, the allotment approach was much less conflict ridden, was more productive, and individuals were more committed to their farming operations. They could spend the required time in the garden to ensure the highest level of productivity and still find time for additional income generating activities. While the worker co-operatives were given access to funding and inputs, the internal conflicts about who was responsible for which aspects of the operations, the oversupply of often unskilled labour, and for the equal share of dividends no matter the skill or contribution of the specific member, far outweighed these benefits.

8.2.1.1 *Supplementary livelihood strategy or fully commercial business*

Internal conflict arose at each of the projects in some part as a result of different perceptions of how best to allocate capital. None of the Bambanani members relied solely on the garden for their survival as all had other income sources. There was therefore a general desire to develop the co-operative through the purchase of infrastructure that would facilitate increased production and the long-term prospects for the group. This was evidenced through Janette's desire to purchase the vehicle or the group's interest, fuelled by Peter, to erect tunnels at the site to enhance winter production. Constance's insistence that co-operative money should rather be spent on fertility inputs provides some evidence of how her view of the purpose and potential of the garden differed from the project members' view. For Constance this was a "welfare project" that needed to be sustained through the support mechanisms of government, whereas for the

members the project had the potential to be something else. The fact that this potential was not being realised was a symptom of an overreliance on external support ("a support mentality") and the organisational form and internal dynamics.

While Mtla members had a similar desire to increase the commercial viability of their project, the potential financial benefits from produce sales for them as individuals was far more substantial (in their allotment setup they were not required to share what they earned). For this reason the livelihood aspects of this garden outweighed the garden improvement component which was left to the various government support structures (though these were limited due to their not having registered as a co-operative). Ultimately, decisions were made by the individual as each individual was in control of their own production and sales. Decisions about communal garden infrastructure such as irrigation piping, water, and fencing were made by the group.

Mokobobo's membership, as explained in Chapter Seven, was characterised by what I termed 'original' and 'new' members. The dynamic between these two groups was clearly one where conflict arose due to the 'original' group wanting to use co-operative funds for a combination of commercial business development and livelihood strategies in opposition to the 'new' group's aspiration to develop the co-operative into a fully-fledged commercial enterprise. One of the primary reasons for this was the fact that most of the 'new' members were employed and earning an income outside of the co-operative. The 'original' member group were mostly pensioners who earned a government pension but who also did most of the labour at the site and who believed that their efforts deserved to be fairly paid. For the 'new' members, improved technology and employment of efficient contract labour were seen as mechanisms to develop the commercial viability of the co-operative. Paying co-operative members to labour was inefficient and unproductive. Though there were systems in place to monitor production, income, output, labour productivity and so on, these were not properly utilised and were reportedly co-opted to the benefit of the different groups and ultimately, merely fuelled the conflict.

These three groups of farmers are clearly not homogenous groups and there are clear internal class struggles between what could be broadly termed Johannesburg's urban and peri-urban working and capitalist classes. In these project contexts, however, the distinction is not so clear. For example, Bambanani and Mokobobo's co-operative status provides members with an

overarching organisational structure that is encouraged to reinvest and compete in the 'free market' space while the members themselves struggle to meet their own basic needs. They are constantly battling these forces, between survival and commercial viability, within themselves and from a developmental perspective.

8.2.1.2 *Power and control*

One would like to believe that the two registered co-operatives, Bambanani and Mokobobo, "are associations of people who agree to be the owners, the makers of democratic decisions and users of their joint enterprise" (DTI, 2004:8). While each of the co-operatives as well as the Mtla group follow protocol with respect to democratic decision making processes and where members are owners of the joint enterprise (even if only temporarily, considering lease agreements etc.), there were areas of conflict emanating from who genuinely had control and influence over the group and the resources.

At Bambanani, while Peter was chairperson of the co-operative, Constance actually held most of the power. Her COJ status gave her authority that she exerted through decision-making about what to plant, for what labour was to be used, and for how to sell produce. This control disrupted the progress that had been made in the garden and ended the regular supply of produce to local residents.

At Mtla, even though there was less conflict than at the other two projects, there was still a clear power dynamic that may have skewed the fair share of resources. The amount of space allocated to each person was a case in point (see Chapter Six). It appeared that the people who were most active had most control, though was this due to them being most active from the start or was it through some other factor?

The outcome of the conflict at Mokobobo would suggest that David and the 'original' member group had most power. David described the attempted takeover as a hostile attempt on the democracy of their group. As was described previously, the 'new' member group could be considered a capitalist class when compared with the 'original' member group who could be classified as working class. When considering this class dynamic, it would appear that the 'new' member group was attempting to take over the co-operative so as to align it more with their

commercial business aspirations. They wanted to achieve this through their implementation of a stakeholder membership component and through increased use of mechanisation. As stakeholders, the 'new' member group could direct the enterprise toward increasing external inputs of labour and capital to improve infrastructure, productivity, and ultimately, to increase the benefit to the stakeholders. The 'original' members feared that they would be squeezed out of the project due to their not understanding the new stakeholder talk but also as a result of the lack of transparency that was shown them by the 'new' members. Ultimately the 'original' member group regained control and continue to struggle with decisions on how to progress.

Machethe's (2004:11) conference paper's call for "an effective smallholder agricultural development strategy" that would recognise that different categories of smallholder farmers would require different approaches, while acknowledging that he was making reference to the rural context, also holds true for agricultural support in this urban and peri-urban context. GDARD extension support continues to promote (a form of control) high-input crop production by supplying seed and other resources (spinach, cabbage, beetroot, fertilisers etc.) where they should instead be promoting the entrepreneurial potential of the project members in particular where they had engaged in seed saving, indigenous plant production, or fertility enhancing practices (in other words, less input-heavy production within the urban and peri-urban context). Moore (2010:405) explains this dependence further where "…soil exhaustion is 'fixed' through rising capitalization in the form of fertilizers, while fertilizers themselves work only for so long before provoking pest invasions, escalating pesticide use, which creates new resistances, and so forth…the *rising capitalization of nature creates a world-historical situation of rising production costs stemming from the degradation of the conditions of production*". Extension support in South Africa continues to promote this dependence and, in so doing, limits the ability of small farmers to improve their "conditions of production" and ultimate success.

These research findings suggest that the organisational features of the UPA community project plays a major role in the project's success from both social and economic perspectives. Where the co-operative status provides potential funding opportunities its social implications are largely disastrous. Allotment type models, while they are excluded from the scope of development funding, could provide a more socially successful platform, particularly in the urban context where multiple livelihoods are common and labour time needs to be proportionately allocated.

This approach could also facilitate more independent decision-making as opposed to the current top-down approach where inputs and outcomes are prescribed by non-members (extension staff etc.).

8.3 Impacts on poverty reduction and sustaining livelihoods

In a 2007 report the FAO (2007:49) make the statement that "many city governments have realized that UA (urban agriculture) provides opportunities to involve specific vulnerable groups in the socio-economic city life (social inclusion) and an important strategy for poverty alleviation." In the Bambanani case it could be argued that some of the contract workers were experiencing structural poverty, where they may be experiencing improved welfare, but where they could "hardly be said to have escaped poverty if the ways in which they are positioned in society by their access to resources and their insertion into social relations have not been changed" (du Toit, 2005:15). This state of poverty is shaped "by the interactions between asset poverty, cash hunger, job insecurity and unemployment, the 'thin-ness', limited nature, and ambiguity of 'social capital' and their subjection to exploitative power relations" (ibid:16). The project's existence and the added benefit of the accommodation that was provided, was helping the contract workers to temporarily improve their state of wellbeing but it would not provide an avenue out of the state of poverty in which they had been placed (inequality and limited scope for improvement that is a consequence of the imperial and apartheid histories of Southern Africa). For the membership, however, other income possibilities were made available to them through their having access to the 'community' space and the role of the garden only played a part in their complex strategies for survival. In addition, the co-operative spaces symbolised collective spaces where members could receive agricultural training and support that would not be as easy to access if they were not members of the co-operative and were seeking similar support. Ultimately, the space was used for the improvement of individual capacity thereby increasing potential income sources.

Mokobobo members were much more vulnerable to the effects of structural poverty. They were mostly retired and relied on social security grants. The project provided some potential future security (for example, the sale of tomatoes would occasionally provide revenue for the co-operative and possible pay-outs to the members) and was engaged in mainly for this reason.

The GADS states that "urban agriculture has emerged as a key livelihood and coping strategy for urban residents and as an essential land use, changing the way people in cities feed themselves and making a significant contribution to urban food security" (GADS, 2006:28). When considering the three cases and their impacts on livelihood diversity strategies of their members I would tend to agree with the government's statement that these projects support a key livelihood and coping strategy, particularly for members who had fewer livelihood options. These projects, as supported by the COJ and in an urban context, could be seen as taking the role of "a partner in the state's new role of delivering social security universally" (Vink, 2004:176). In other words, the state has created these spaces as a means to delivering forms of social security. They are spaces where entrepreneurs can take productive advantage of resources. Whether cash income can be earned for the purchase of production and consumption goods and whether individual accumulation strategies can develop through this access is not guaranteed and is the reason that having multiple livelihood strategies is so important for these members.

"PLAAS research seems to indicate that one of the benefits of this pluri-activity is not merely that it allows households to spread risk; as important is households' ability to create synergies and convergences that create a whole greater than the sum of its parts. A key to survival for poor people is thus their skill as strategists, integrators and bricoleurs, weaving disparate sources of income and complex processes of social exchange into a coherent existence." (du Toit, 2008:10). All of the projects provided the space in which members could develop various livelihood aspirations. In each project one could find energetic and entrepreneurial individuals who earned incomes through various channels within their particular space. This was most clearly apparent with Janette at Bambanani (chapter five), and Jenny at Mokobobo (chapter seven). All members at some point in their history with their particular project had an additional contract or piece-job that earned them extra income. Membership of these projects permitted this adaptability which provided some form of financial security for those involved.

The entrepreneurial drive seen in Janette, Jenny, and John could be attributed to their limited access to cash, particularly from an access to grants perspective. Most of the 'original' Mokobobo members, for example, are grant recipients, and in addition to their family support networks (that some may rely on more than others), can depend on the respective monthly cash sum of money. It may also explain to some degree, why Mokobobo 'original' members appear

complacent and to lack a sense of urgency to grow the project (not increasing production for example). Having access to the cash from grants provides choices and flexibility (du Toit and Neves, 2009:22) and the ability to limit interaction when things are not going the way they want. In other words, when there is conflict, they can remove themselves from the project, and in some instances even sabotage the current operations. This has a knock-on effect and discourages members who rely more heavily on the project who are then forced to leave it in search of more lucrative options.

Coetzee and van Averbeke (2011:288) note that "most studies concur that urban farming in South African townships is rarely central to the livelihood strategies of poor people and should rather be seen as one of a number of elements that make up these strategies." While none of Bambanani's members relied solely on the garden as a livelihood or for their own food supply it was a potentially important livelihood option for Janette and the labourers (Daniel and Bongani). Mtla members relied more heavily on their allocated garden spaces for their livelihoods. Mtla were in control of this component of their livelihoods as they were effectively in charge of their operation at an individual level. Janette was not in charge and ultimately had to change what was produced in the garden, dislodging the networks and relationships that had evolved during her period of control (selling marog to local community members etc.). This was a clear case of where government officials were providing a blueprint of how they believed the project should function. This included producing for formal markets and producing high input exotic produce without considering the membership's "own plans or their material realities" (du Toit, 2008:14).

The entrepreneurial ability of members should be supported so as to facilitate beneficial and enduring livelihoods within the highly competitive and transitionary urban and peri-urban environments. While the city's poor are not necessarily fully benefiting from the livelihood potential of these UPA community projects, the output from their production potential could be of benefit. Ultimately, if UPA community gardens were left to map their own courses, their impact on the poor could be more substantial. Current government support is partly hampering this potential and therefore needs to be revisited and reconceived.

8.4 Conclusion

This chapter provided a comparative analysis and synthesis of the research findings, while relating these to this thesis's research questions and to debates in the wider literature. Access to production inputs was explained through each community project's ability to access working capital, and to the extent of their agricultural knowledge and experience. The labour component of each project was based on various factors, including how labour would benefit specific project members, how much operational capital was available, and to what degree members could diversify their income sources. Free access to land and water were key factors that, to a large extent, facilitated the continued participation of members and ensured the survival of the groups. Another important influence was the level of external support that was provided primarily by government, and to what degree this support influenced decision-making processes (for example, what to produce, how to produce it, and where to sell it). The chapter continued with a breakdown of how production was organised and how produce was marketed. It argued that informal markets played an important role for UPA producers and for food supply to city residents. Yet, gaining access to the formal market sector was not always the most viable option. Organisational structure impacted significantly on productivity levels and the work ethic of the members. Power dynamics were similarly influential and affected operational capacity and productivity. UPA community projects, while not contributing substantially to cash incomes for most of the project members, did provide an important livelihood strategy that, in most cases, was one of multiple strategies that contributed to members' survival.

Chapter Nine: Conclusions and recommendations

This chapter begins with remarks on what constitutes UPA community projects in Johannesburg and how these activities are organised. I then present the key insights that were touched on in the analysis and synthesis chapter and expand on these ideas indicating what they signify within the wider context of cities in South Africa. This is followed by a presentation of key recommendations on mechanisms to alleviate urban poverty and sustain urban livelihoods. These recommendations are partly aimed at encouraging the COJ's urban agricultural development initiatives to move towards what Marsden (2012) refers to as an "ecological entrepreneurship" model of support, as opposed to the welfare-oriented and 'top-down' developmental approach that is currently a dominant characteristic of the COJ's development sector.

9.1 Urban and peri-urban agriculture community projects in Johannesburg

The focus of this research was on the nature of UPA community projects in Johannesburg, how they were organised, how they impacted on the people that worked within them, and in what ways they engaged with their surrounding communities. The projects were mostly supported through the Human Development programme (a programme within the COJ's Human Development Directorate) particularly with respect to accessing water and land within the city and surrounding environments. Projects were largely support oriented and received a large majority of their inputs at no cost to themselves. Most members had multiple livelihoods and the agricultural project served as one of these, though to varying degrees (in some cases more than one livelihood activity took place in the particular space). The importance of these livelihoods varied between projects and between members but in general they were more important where members had some degree of autonomy from local government. Projects distributed food through a variety of marketing channels though they tended to cater mostly for their local communities, though again this was mostly the case where they were given the freedom to do so.

9.2 Key insights

This research project has provided me with four primary insights: the first is that working class people living in urban and peri-urban Johannesburg engage in multiple livelihoods that should be

supported; the second is that the co-operative model that is currently imposed on UPA community projects should be realigned with a combination of the co-operative and allotment type of organisation; the third is that informal urban and peri-urban market networks should be supported; and the fourth is that external support for UPA community projects should be less prescriptive, more facilitative, and engage communities around what they themselves feel they need.

9.2.1 *Multiple urban and peri-urban livelihoods support*

The urban and peri-urban working class and unemployed in Johannesburg typically engage in multiple livelihood strategies to try to maximise their incomes and improve their quality of life. These multiple livelihood strategies are central to their daily survival and may often cushion sudden financial shocks, food poverty, and other forms of relative deprivation and misfortune (du Toit and Neves, 2009). In the context of people engaged in UPA community projects, having multiple sources of income makes it possible to continue with their UPA interests. While these projects do not provide substantial or stable sources of cash income, there are periods where the financial gains are relatively beneficial. Yet, the only way that these benefits can be accessed is by having other livelihood streams to fall back on during periods of low productivity.

The COJ Human Development Directive should be encouraged to acknowledge these multiple livelihoods and provide the space for them to continue alongside the UPA community projects. Some flexibility is required. For this to be realised, members should be permitted to work the hours that they realistically can, so as to also engage in other livelihood strategies. One way of facilitating this is for the prevailing co-operative model to be adapted (see below under 'Realignment of the co-operative model') to avoid the extensive free riding that was regularly observed and that has been documented in this research project. Acknowledging multiple livelihood strategies would also in some part explain why the UPA community projects are currently largely "unsuccessful" when viewed from the strictly economic angle that emphasizes high yields (Tilman et al., 2002:673) and productivity, profitability, and regular cash incomes. UPA community project members could also be encouraged or allowed to utilise their project spaces to expand their assemblage of livelihoods, utilising resources, and taking advantage of

emerging opportunities. While formal employment opportunities are limited, these constructive, entrepreneurial, and potentially wide reaching (food provision) activities should be supported.

9.2.2 *Realignment of the co-operative model*

The co-operative model sits awkwardly with a multiple livelihood scenario, and is possibly one of the main reasons for its failure. When co-operative members are able to find regular, waged work, they often leave the project and default on their responsibilities to the group. Conflicts can arise or numbers simply dwindle until the operation becomes unproductive and unmanageable. While this may be beneficial to the people who stay on, for example through more benefits being gained as a result of having more control of the project (though this could also be more burdensome through greater labour responsibility), it does not support a community development agenda.

I would agree with Philip's (2003:26) recommendation that a less prescriptive approach is used as a means to improve the quality of people's lives, more in line with the user co-operative type model, where the priority instead "is to embrace diverse and inclusive approaches, and to find innovative, flexible and locally-specific ways to use economic co-operation". A possible strategy to accomplish this recommendation and to revise the dominant conceptualisation of the urban and peri-urban co-operative model would be to consider a variation that brings together aspects of co-operative and allotment systems. What would change from the current worker co-operative model is that members would be allocated plots that they would hold temporary use rights to. They would be responsible for the labour required for that plot, and they would secure most of the benefits from its produce. Each co-operative could design a constitution setting out the rules of the organisation, stating what contribution should be made to the group from the proceeds from the plots and other specifics such as the responsibilities of members. The contribution could be monetary or it could take some other form such as produce, labour, or resources. The group would share water and irrigation expenses, fencing, and perhaps fertility in the form of communal compost and animal manure (especially in the peri-urban spaces). In addition there could be a "use-it or lose-it" policy which could be based on productivity and time spent working on the plot. A strong and impartial oversight committee that has community buy-in would be a prerequisite for this model to function effectively.

Furthermore, a wholesale change in emphasis from workers co-operatives toward more support for user co-operatives that would provide further opportunities for entrepreneurs who juggle multiple livelihoods, some just to survive but others to bolster their income and longer term accumulation potentials. A user co-operative strategy would help to bring smallholders together to collaboratively market their produce instead of trying to impose group ownership of individual production enterprises.

9.2.3 *Supporting informal market systems*

The informal market network is a major food distribution channel for Johannesburg's vulnerable urban and per-urban residents. Street hawkers source products from large centralised markets, but may also source from smallholder farms that are near to them. They then distribute produce of various types to city populations around the country. Individuals also source produce from gardens near to their homes particularly when culturally specific varieties are produced that are not available in supermarket chain stores.

UPA community projects should be supported to provide for these informal market spaces. As Greenberg (2010:7) notes "little consideration has been given to potential interventions that seek to strengthen non-corporate trading – whether through better integration with industrial–corporate value chains or as part of other non-corporate systems of production and distribution, or some combination of those". The current trend to encourage projects to supply to formal retail with exotic high input produce is not particularly useful. UPA community project members should be encouraged to produce for their local markets, giving them the space to do their own assessment of demand and to fulfil that demand by providing what is required. While local government has provided land and water, making it less difficult to produce what formal markets desire, these resources should not be abused (specifically the water component). In other words, a supportive environment that encourages production of indigenous varieties along with exotic types is preferable to a water heavy and exotic focus.

9.2.4 *Facilitative external support*

Currently, external support for UPA community projects is highly prescriptive and narrowly focussed. Project members are often strongly encouraged to grow specific produce, told how to

organise themselves, and advised where to sell their produce. Greenberg (2010:16) recommends that "A radical retooling of extension services is required, including a transformed curriculum that enables them to provide technical advice based on sound ecological practices (that is, using natural resources renewably)". In certain instances external support agents even have influence over how group funds are spent. It is problematic that external support should have such strong influence over group decisions, and that they be permitted to align themselves with any one side of an internal conflict.

This type of external support should be transformed to support that links local institutions and networks for the purpose of resource acquisition and distribution, and furthermore, for final product marketing and distribution; or as Greenberg recommends, through the facilitation of "connections between producers and resources/support", and "the organisation of producers". Greenberg (ibid).

There are a number of government departments and local businesses that could be co-opted into sharing and distributing otherwise waste resources. For example, Regional City Parks depots could regularly deliver grass cuttings, leaf litter, and/or woodchips to their local UPA community projects instead of to municipal dumps. Regional seedling suppliers and seed banks should be supported and where they are not present they should be developed. These are the type of links that could be supported by external agents and the donor community that would further support and encourage local capacity and initiative.

9.3 What this all means for UPA community projects and their contribution to development

For UPA community projects to have some level of success, a combination of the following should be considered. Firstly, the organisational structure of projects should be adapted to better support the nature of the urban and peri-urban multiple livelihoods reality. Once UPA community project members are assured that their individual efforts will be better rewarded through the allotment setup, they may be incentivised to be more productive, and as a consequence may produce more for sale. This could impact on the informal market sector by creating a steady supply of fresh produce within the populated urban and peri-urban spaces. This abundance could spill over into the niche market sector and could stimulate business

opportunities for niche retail and even further for the supermarket sector. Ultimately this would require a better conceived support structure that would be tasked to bringing together the productive resources of the City, to converge on these urban and peri-urban centres of production.

9.4 Future research

Research on how and from where urban niche market retail outlets purchase fresh produce would provide key insights for the development of the models described above. In addition, a feasibility study on whether or not there is a need for a distribution organisation, possibly in the form of a tertiary co-operative structure, that could coordinate produce collection and distribution from local farmers to niche market spaces. Another possible angle of enquiry would be to ask whether or not the allotment model for urban systems in South Africa has the potential to succeed (what could these look like and who would they benefit?). To pursue this question a desktop study could be undertaken on international allotment models supported by empirical data collection on local African system examples that show likenesses to the basic allotment concept.

9.5 Key recommendations

Within Johannesburg's UPA development context my key framing recommendation would be that guidelines for the COJ's urban agricultural support programme be developed through wide consultation with current project members, support agencies, and other sector role players.

My more specific recommendations include the following:

For the institutional support sector (civil society and research institutions):

- A study should be conducted on the various permutations of the allotment model, internationally and locally, to provide the bases for arguments supporting an alternative or adapted organisational form (an allotment co-operative model);

For local government, specifically for the COJ Human Development Directorate:

- Where it is possible, support an allotment type model where project members are allocated space with certain joint resources;

- Members should be permitted access to these spaces for as long as they keep them productive and well maintained;
- Government's support personnel should provide a facilitation service for these projects where they are tasked to create links with local agencies and business for resource acquisition and distribution.

In conclusion I would like to quote Marsden (2012:139) who refers to the unsustainability of the current agro-food system and suggests that "agriculture will have to return to being what it was: a more embedded, connected and localised activity largely serving and being served by its city regions." South African city spaces could facilitate such activities, and in the process could provide more secure livelihood opportunities for its people and alternative sources of food.

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APPENDIX I

agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Directorate: Food Safety and Quality Assurance, Private Bag X343, PRETORIA, 0001 • Tel: +27 12 319 6023

FAX COVER SHEET

TO: TO ALL PRODUCERS, MARKET AGENTS, WHOLESALERS, MARKET MASTERS TRADERS, RETAILERS AND IMPORTERS OF FRESH VEGETABLES

FROM:	**Mr. Billy Makhafola**	**E-MAIL:**	**BillyM@Daff.gov.za**
TEL:	**(012) 319 6023**	**REF NO:**	**21/4/1 Vegetables**
FAX:	**(012) 319 6055**	**SERIAL NO:**	
NO. PAGES:	**1**	**DATE:**	**18 August 2010**

Subject:

PRACTICAL IMPLEMENTATION OF REGULATIONS RELATING TO THE GRADING, PACKING AND MARKING OF FRESH VEGETABLES INTENDED FOR SALE IN THE REPUBLIC OF SOUTH AFRICA (R.69 WHICH WAS PUBLISHED ON THE 13th FEBRUARY 2009 IN THE GOVERNMENT GAZETTE No. 31828)

The Executive Officer: Agricultural Product Standards Act, 1990 (Act no. 119 of 1990) has observed a general culture of non-compliance by both the producers, packers, sellers and retailers with Regulations Relating to the Grading, Packing and Marking of Fresh Vegetables intended for Sale in the Republic of South Africa throughout the national fresh produce markets and some retailers. The aforementioned Regulations came into force on the 13th February 2009 through Government Gazette no. 31828 which implied that due compliance by the fresh vegetable industry was immediately expected.

In order to assist the role-players (agents, retailers, producers and packers of fresh vegetables) in the local fresh vegetable industry to comply with Regulations No. 69, the Department of Agriculture, Forestry and Fisheries will be implementing Regulations in phases. These phases will be split into two, namely the "compliance with requirements phase (namely Regulation 6 and 10) and the full comprehensive compliance with the aforementioned Regulations. The first phase (compliance to requirements stage) comprises of adherence to packing and marking of fresh vegetables. The second stage (phase) of implementation will focus solely on compliance with all aspects of the regulations, i.e. compliance with grading, packing and marking.

Role players in the fresh vegetable industry are given a period of four months to ready themselves for full compliance with the first phase of implementation which starts from September up to December 2010. During this concession period no consignment of fresh vegetables shall be rejected on the basis of non-compliance however this period should be viewed and used as a grace period to allow the industry to gear them towards complete adherence to the Regulations.

The sale of non-complying products with respect to packing, marking and labelling requirements shall be prohibited in terms of section 3 (a)(v) of the Agricultural Product Standards Act, 1990 (Act No. 119 of 1990) once the four months period has lapsed. This prohibition will be effected at the point of sale, in other words at the wholesale or retail level. The first batches of products which the DAFF inspectors will focus upon are carrots, butternuts, peppers, cucumbers, beetroots, green beans, broccoli, sweet potatoes, asparagus, mushrooms and cabbages.

This concession only applies to Regulations on vegetable types as set out in No. R. 69 which were published on the 13th February 2009 in the Government Gazette number 31828.

It would be appreciated if this communiqué can be taken heed of by all stakeholders within the Fresh Vegetable industry.

EXECUTIVE OFFICER:
AGRICULTURAL PRODUCT STANDARDS ACT, 1990 (Act No. 119 of 1990)
Copies: Regional Manager: Kempton Park, Durban and Stellenbosch

APPENDIX II

The Gauteng Department of Agriculture and Rural Development's 2009/2010 annual report

A list of the18 projects awarded a letter of intent to supply government institutions with vegetables for a period of three years (Leshage Construction and Be Fresh Produce are listed under the Western Region and Eastern Region respectively).

Company Registration Name	**Name of Project / Farmer**
NORTHERN REGION	
Tsakane Brokerage	Mrs Marivate
Korema Development Agency	Mr P Mokgohloa
Nhaka Heritage Trading cc	Mrs Mureriwa
Seho Bouikutlo General Maintenance	Mr G Sehole
Khoza's Fresh	Mr H Khoza
Boitumelo Cooperatives	Kutlwano Cooperatives
WESTERN REGION	
Diepkloof Nursery	Ms T Gazi
Jaykes Tiller & Farmers	Mr Smith
Mama's Chillies	Mama's Chillies
Lehlare Construction	Thuthukani Luphumile
Bilalian General Traders	Mr L Mojokane
EASTERN REGION	
Masebiseng Farming	Mrs A Phoza
Be Fresh Produce	Mr G Leshage
Songula Trading Enterprise	Songula
Vicky Agricultural Services	Mrs Molewa

Rothe Poultry and Vegetables	Ms S Malinga
Dijalo Farming	Mr Sithole
Ntswanatsatsi Produce Farm	Mr Tseki

Source: Gauteng Department of Agriculture and Rural Development's 2009/2010 annual report, page 79.

APPENDIX III

ORGANIC FOOD PRODUCTION RESEARCH PROJECT

Questionnaire number					Research Assistant			

Name of respondent		
Project name		
Language spoken		
Are you a member of a co-operative?	Yes	No
If Yes: name of co-operative and approximate membership?		
If Yes: Are you employed by the co-operative?	Yes	No
Farm/Plot name (if applicable)		
Name and surname by which household is known		
Cell phone number of respondent		
Area where you live in Gauteng?		

Particulars of visits to the household	**Date**	**Time started**	**Time ended**
First visit			
Second visit			

Do you have any questions before we start? **.....**
.....

TABLE 1: MIGRATION HISTORY – now I'm going to ask you a couple of questions about where you come from				
1a	In what country were you born?			*Go to Question*
		South Africa	1	⇩ **1b**
		Zimbabwe	2	⇩ **1e**
		Mozambique	3	⇩ **1e**
		Malawi	4	⇩ **1e**
		Swaziland	5	⇩ **1e**
		Lesotho	6	⇩ **1e**
		Botswana	7	⇩ **1e**
		Namibia	8	⇩ **1e**
		DRC	9	⇩ **1e**
		Zambia	10	⇩ **1e**
		Nigeria	11	⇩ **1e**
		Other Specify.....	97	
		Don't know	98	
		No response	99	
1b SA	If you were born in South Africa, which province were you born in?			*Exact location*
		Eastern Cape	1	
		Free State	2	
		Gauteng	3	
		Kwazulu-Natal	4	
		Limpopo	5	
		Mpumalanga	6	
		Northern Cape	7	
		North-west Province	8	
		Western Cape	9	
		Don't know	98	
		No response	99	

TABLE 1: MIGRATION HISTORY – continued.				
1c SA	If you weren't born here in Gauteng, when did you leave the province of your birth?	mm yyyy		
		Not applicable	96	
		Other Specify.....	97	
		Don't know	98	
		No response	99	
1d SA	If you remember, when did you arrive in Johannesburg? **Note to researcher:** If the participant says he/she can't remember, please probe. Ask if it was • In the last month • Last 6 months • Last year; or • More than 5 years Add answer to Other Specify.....	mm yyyy		
		Not applicable	96	
		Other Specify.....	97	
		Don't know	98	
		No response	99	
		After answering this question move to TABLE 2 ⇩		⇩
1e Non-SA	If you remember, when did you leave your home country? **Note to researcher:** If the participant says he/she can't remember, please probe as above.	mm yyyy		
		Not applicable	96	
		Other Specify.....	97	
		Don't know	98	
		No response	99	
1f Non-SA	If you remember, when did you arrive in Johannesburg? **Note to researcher:** If the participant says he/she can't remember, please probe as above.	mm yyyy		
		Not applicable	96	
		Other Specify.....	97	
		Don't know	98	
		No response	99	

TABLE 2: HOUSEHOLD MEMBERS

Please tell me about all the people who are members of the household, even if they are not here at the moment. Do not include people who have established other households and have not come home in the last few years. **[USE CODES TABLE 1: Household members]**
Household head: …….

Code	Col 1	Col 2		Col 3	Col 4	Col 5	Col 6	Col 7
		2.Sex						
	1.Full name	Male	Female	3.Year of birth and age of this person	4. How is this person related to you? **[USE CODES]**	5. What is the marital status of this person? **[USE CODES]**	6. How often is this person present at this household? **[USE CODES]**	Total % present most or all nights
1**A**		1	2	/				
2**B**		1	2	/				
3**C**		1	2	/				
4**D**		1	2	/				
5**E**		1	2	/				
6**F**		1	2	/				
7**G**		1	2	/				
8**H**		1	2	/				
9**I**		1	2	/				
10**J**		1	2	/				
11**K**		1	2	/				
12**L**		1	2	/				
13**M**		1	2	/				
14**N**		1	2	/				

TABLE 3: SOURCES OF INCOME OF HOUSEHOLD MEMBERS

[USE CODES TABLE 3: Income sources of household members]

N.B. Description of income source: add details on nature of income source such as type of job, economic sector, where it is located, etc

	Col 1	**Income source 1**			**Income source 2**			**Further information**
	Name **(use code pg6)**	Code	Description	Cash per month	Code	Description	Cash per month	Description
1	**A**							
2	**B**							
3	**C**							
4	**D**							
5	**E**							
6	**F**							
7	**G**							
8	**H**							
9	**I**							
10	**J**							
11	**K**							
12	**L**							

TABLE 3: SOURCES OF INCOME OF HOUSEHOLD MEMBERS - continued

[USE CODES TABLE 3: Income sources of household members]

N.B. Description of income source: add details on nature of income source such as type of job, economic sector, where it is located, etc

	Col 1	**Income source3**			**Income source 4**			**Further information**
	Name **(use code pg6)**	Code	Description	Cash per month	Code	Description	Cash per month	Description
1	**A**							
2	**B**							
3	**C**							
4	**D**							
5	**E**							
6	**F**							
7	**G**							
8	**H**							
9	**I**							
10	**J**							
11	**K**							
12	**L**							

TABLE 4: RANKING OF SOURCES OF INCOME OF HOUSEHOLD MEMBERS

Please rank the four most important income sources of the household, in order of importance, and explain why each is so important.

Rank order	Name **(use code pg6)**	Income source	Cash earned / month	Reason for importance
1				
2				
3				
4				

TABLE 5: REMITTENCES TO THE COUNTRYSIDE – is money remitted back to family members in the countryside or in another country?

	Name **(use code pg6)**	Money sent where (country and province?)	Money sent to whom (family member?)	Cash sent / month	Reason for sending
1					
2					
3					
4					

TABLE 6: DURABLE GOODS AND PRODUCTIVE ASSETS OF HOUSEHOLD MEMBERS – here only consider goods that are working

DOMESTIC	Does the household have?		Number owned	**TOTAL**
	Yes **(1)**	No **(2)**	Household	DOMESTIC
1 Electric stove	1	2		
2 Microwave	1	2		
3 Sewing or knitting machine	1	2		
4 Washing machine	1	2		
5 Lounge suite	1	2		
6 Gas stove	1	2		

7 Paraffin stove	1	2		
8 Fridge/freezer	1	2		
9 Freezer separate from fridge	1	2		
ELECTRONIC /COMMUNICATION				COMMUNICATION
10 Radio	1	2		
11 CD player	1	2		
12 Television /DVD player	1	2		
13 Computer	1	2		
TRANSPORT				TRANSPORT
14 Motor cycle	1	2		
15 Bicycle	1	2		
16 Motor vehicle in running order	1	2		

TABLE 6: DURABLE GOODS AND PRODUCTIVE ASSETS OF HOUSEHOLD MEMBERS – continued

AGRICULTURE				AGRICULTURE
17 Tractor	1	2		
18 Plough	1	2		
19 Wheelbarrow	1	2		
20 Knapsack sprayer	1	2		
21 Donkey cart/ox cart/horse cart	1	2		
22 Garden spade	1	2		
23 Garden fork	1	2		
24 Hoe	1	2		
25 Generator	1	2		
26 Water tank	1	2		
27 Mill	1	2		
28 Pick	1	2		
27 Inverter	1	2		
28 Other (specify)	1	2		

TABLE 7: LAND USED BY MEMBERS OF THE HOUSEHOLD LAST YEAR

What types of land does this household have? **(Include land that is not adjacent to the household)**

	Col 1	**Col 2**		**Col 3**		**Col 4**	**Col 5**	**Col 6**
	1.Type of land	2. Does your household have use of this type of land?		2. Has the land been used by the household in the last 12 months?		3. In what year did your household get this land?	4. How did your household first get this land?	5. How many plots does this household have?
		Yes **(1)**	No **(2)**	Yes **(1)**	No **(2)**			
1	Residential	1	2	1	2			
2	Garden plot/s within household	1	2	1	2			
3	Project land?	1	2	1	2			
4	Other (specify)	1	2	1	2			

- **If the household has land but is not using it, please explain why:**

……
……
……
……
……
……
……

- **ONLY ASK HOUSEHOLDS THAT HAVE GARDEN PLOTS**

TABLE 8: CROPS GROWN BY MEMBERS OF THE HOUSEHOLD LAST YEAR

What types of crops were grown on the land used by this household last year? (Include land that is not adjacent to the household)

	Type of land	Crop type1	Crop type2	Crop type3	Crop type4	Crop type5	Crop type6	Crop type7	Crop type8	Crop type9
1	Garden plot/s within household									
2	Other (specify)									

TABLE 9: USE OF CROPS BY HOUSEHOLD LAST YEAR

	Crop type	Measure	Amount consumed	Amount sold	Cash received	Purchaser
1						
2						
3						
4						
5						
6						
7						
8						

- **ASK ALL PARTICIPANTS**

TABLE 10: LIVESTOCK OWNED BY HOUSEHOLD

What livestock are owned by this household? **(Include animals kept elsewhere and looked after by others)**

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
	Type of livestock	Number owned now	Where these animals are kept	Purchases in last year	Births in last year	Deaths in last year	Slaughter in last year	Sales in last year
1	Cattle							
2	Goats							
3	Sheep							
4	Donkeys							
5	Pigs							
6	Chickens							
7	Other poultry							
8	Other (specify)							

TABLE 11: NUMBER OF LIVESTOCK OWNED BY INDIVIDUAL MEMBERS OF HOUSEHOLD

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	TOTAL
	Type of livestock	Name/Code	Name/Code	Name/Code	Name/Code	Name/Code	Name/Code	
1	Cattle							
2	Goats							
3	Sheep							
4	Donkeys							
5	Pigs							
6	Chickens							
7	Other poultry							
8	Other (specify)							

TABLE 12: LIVESTOCK SOLD BY MEMBERS OF THE HOUSEHOLD LAST YEAR

	Livestock type	Number sold	Livestock owner/s – use codes	Cash received	Purchaser
1	Cattle				
2	Goats				
3	Sheep				
4	Donkeys				
5	Pigs				
6	Chickens				
7	Other poultry				
8	Other (specify)				

Did any project workers receive a cash wage last year? Yes ..... No ..... How many?.....

Did any project workers receive an in-kind wage last year? Yes ..... No..... How many? .....

If both, why is there a difference in wage types? .....
.....
.....
.....
.....
.....
.....

APPENDIX IV

The 'Grower Group Pledge' signed by Janette on behalf of Bambanani during the PGS assessment process.

PGS South Africa (PGSSA)

Grower/Grower Group Pledge

I/We: **Bambanani Food and Herb Project** (*Farm/Grower Group Name*) hereby solemnly declare and affirm that we support and actively pursue the principles of organic agriculture as described by the International Federation of Organic Agriculture Movements (IFOAM) and the PGSSA, and that these principles were explained to us.

I/We further declare that:

- The information submitted via our PGS application is correct and accurate, and that I/we will keep all information current, complete and up to date to reflect any changes.
- I/We have read and understood the PGS production standards and our growing methods adhere to the requirements listed therein.
- I/We understand that PGSSA reserves the right to remove us from the program and deny us the use of the logo and marketing materials for any reason including concerns that we have violated listed growing practices, or have missing or misleading information on the application.
- I/we will only represent products as organically grown when they actually meet the assessment standards and were produced on land that has been endorsed by PGSSA.
- All the land for which I/we are applying for PGSSA status has been free of prohibited pesticides, herbicides and fertilisers for at least three years (36 months) from the date of our first harvest this year.

OR

- I/We have applied for TRANSITIONAL STATUS.
  - I/We don't use any prohibited pesticides, herbicides or fertilisers now, but we are still within the 36 month transitional period.
  - I/We are practising agriculture without the use of chemical fertilisers and pesticides, but we are still developing our comprehensive organic management system, and plan to implement the changes to our practices as recommended by the PGSSA within the next 36 months.

17th October, 2011 46 Bertrams Road, Bertrams

Date Place

Grower(s)' Signature(s)/distinctive marks

I, GlenroseRefiloe duly authorised by Maria, declare that I have witnessed the pledge by the member/group as recorded above.

Name: Refiloe Designation: Treasurer

Signature: GRMolefe.

Page 1

APPENDIX V

Enterprise details for 2007/001643/24

Please note: - If any of the information displayed on the page is incorrect, please DO NOT email us asking us to change it. Regulated information for CCs must be changed by submitting a CK2A and regulated information for companies must be changed by submitting a CM22. Non-regulated information can be changed by following the Change Corporate Information link.

Enterprise Name	BAMBANANI FOOD AND HERB
Registration Date	03/04/2007
Business Start Date	03/04/2007
Enterprise Type	Primary Co-Operative
Status History	
Current Enterprise Status	In Business
Standard Industrial Classification	TO ESTABLISH FOOD GARDENS TO CATER FOR POOR & VULNERABLE HOUSEHOLDS. TO ENABLE COMMUNITIES TO HAVE ACCESS TO ORGANIC VEGETATION
Telephone Area Code	
Telephone Number	
Fax Area Code	
Fax Number	
Registered Address	46 BERTRAMS ROAD BERTRAMS 2094
Postal Address	46 BERTRAMS ROAD BERTRAMS 2094
Email Address	
Docex Address	
Web Site Address (URL)	
Additional Information	

APPENDIX VI

http://www.truthabouttrade.org/2012/11/21/we-must-remove-the-landmines-that-limit-access-to-biotechnology-in-africa/#comment-4946

Accessed 24 November 2012

We Must Remove the Landmines That Limit Access to Biotechnology in Africa

— By mmusi on November 21, 2012 9:08 am

Back in the dark days of apartheid, many South African farmers like myself were forced to drive our tractors through fields full of landmines as we worked hard to grow maize and other vegetables.

That's now a part of history, thank goodness. Yet farmers in today's Africa continue to face landmines of the metaphorical variety: As we try to obtain access to the latest agricultural technology, we see hazardous obstacles everywhere. They must be removed.

If our continent is ever going to feed itself, we're going to have to beat the odds–and adopt the same tools that are taken for granted in so much of the developed world. That means we must have access to seeds improved with biotechnology.

I've seen the benefits of GM crops firsthand. Just south of Johannesburg, I own several acres of land and rent more. For the last eight years, I've grown genetically modified corn and soybeans. They are outstanding crops. My yields have improved by more than one-third, meaning that the economics of farming never have been better. Agriculture doesn't have to be a subsistence occupation. It can be a sustainable profession.

Economics are only a part of it. GM crops are more sustainable for the environment and human health as well. The biotech variety I planted protects maize from stalk boring insects, so I don't have to apply nearly as much chemical spray as in the past. That's a huge benefit for field laborers, especially children.

The enemies of biotechnology sometimes claim that GM food is harmful to eat. This is sheer nonsense. Ever since I've grown it, I've eaten it. There are no bad side effects. This is perfectly good food.

Africans everywhere must come to this realization. We don't grow nearly enough food. Our production is simply too low. And so we face a stark choice: Do we accept the bleak prospect of permanent dependence, in which we rely upon the wealthy nations of the world to feed us, out of pity? Or do we want to stand on our own and take care of ourselves?

The choice is between aid and trade, and this is no choice at all. We must embrace agricultural growth. We shouldn't struggle to feed our fellow Africans, but should grow so much that we export our crops around the world.

GM technology is not a panacea. It won't solve all of our problems. African farmers face a long series of challenges, from an inadequate infrastructure to political corruption. Yet access to the latest crop technologies will give us a fighting chance, especially as the climate changes and we try to adapt to new and possibly harder conditions. Drought-resistant plants represent an especially hopeful opportunity.

Too much of Africa missed out on the Green Revolution. We cannot afford to let Africa ignore the Gene Revolution. Unfortunately, many people, especially in Europe, don't want us to benefit from these developments. It reminds me of the worst aspects of South African apartheid

In 1976, I quit high school to become an anti-apartheid activist, thinking that liberation was more important than education. They're both essential, of course, and I'm proud to say that over time we saw Nelson Mandela go free and now many of us actually own the land we work. I'm no longer a second-class citizen, but a proud South African with my own passport.

But those were tough times. As a protestor, I was detained by authorities. My brother was beaten. He still has a dent in his skull from that experience. Just thinking about those times brings back memories of pain.

Now we face a new kind of imperialism–an international eco-imperialism that seems to think African farmers should remain poor and desperate, while the rest of the world flourishes. This new breed of activist seeks to keep GM crops away from African farmers and hamper the sale of our GM food to customers in other countries. Almost nothing could be more harmful.

I look forward to a different kind of future, when Africans refuse to let others push us around. We should demand nothing but the best. For those of us who produce the food, that means full access to biotechnology.

Mr. Motlatsi Musi grows maize, beans, potatoes, breeding pigs and cows on 21 hectares he acquired in 2004 through the Land Redistribution for Agricultural Development Program (LRAD) in South Africa. Mr. Musi is a member of the TATT Global Farmer Network (www.truthabouttrade.org)

APPENDIX VII

Enterprise details for 2007/001716/24

Please note: - If any of the information displayed on the page is incorrect, please DO NOT email us asking us to change it. Regulated information for CCs must be changed by submitting a CK2A and regulated information for companies must be changed by submitting a CM22. Non-regulated information can be changed by following the Change Corporate Information link.

Enterprise Name	MOKOBOBO FARMERS
Registration Date	13/03/2007
Business Start Date	13/03/2007
Enterprise Type	Primary Co-Operative
Status History	
Current Enterprise Status	In Business
Standard Industrial Classification	AGRICULTURAL. TO CARRY ON FARMING & INDUSTRIAL OPERATIONS. TO ENGAGE IN POULTRY FARMING & DISPOSE OF THE PRODUCTS THEREOF VIZ EGGS& LIVE CHICKENS,PIGGERY ETC.
Telephone Area Code	083
Telephone Number	5828693
Fax Area Code	073
Fax Number	0670905
Registered Address	IQ 316 PORTION 15 EIKENHOF ROAD (R554) OLIFANTSVLEI 1821
Postal Address	667 VLAKFONTEIN EXTENSION 1 THEMBELIHLE ZAKARIYYA PARK 1821
Email Address	
Docex Address	
Web Site Address (URL)	