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*Dedication*

There are special people who were with me from the start to support me, encourage me and to help me. **Submitted in partial fulfilment of the requirements for the degree:** My mother, brother, sister and my two sisters who always been present. Part of my support I would like to thank my father and brother, you have all given me the best of what I do. Your love and support will always be with me. With love and dedication, dedicated to the maintenance of all of you.

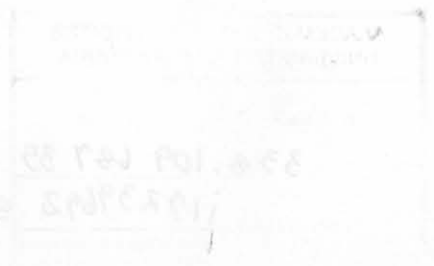
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### *Dedication*

*There are special people who come into our lives to teach us, support us, encourage us and to love us. They leave their imprints on our hearts and we are never the same again. My mother, brothers, sisters and my late father were amongst those people. Family is the strongest foundation on which you build love and security; you have all given me the strength to do what I do. Your lives will always be an inspiration to me. With love and admiration, I dedicate this dissertation to all of you.*

### *ABSTRACT*

The most poor and disadvantaged community residents are found not only in rural areas but also in urban and peri urban areas, particularly in the informal settlements of metropolitan cities which have mushroomed epidemically during recent years. These urban populations are increasing at an alarming rate because of an influx of people from predominantly rural areas to urban areas. Uncontrolled influx or urbanisation leads to an increase in number of urban poor and thus overcrowding in metropolitan areas such as the Cape Flats of Cape Town.

Urban agriculture has been one among a variety of informal activities practised by urban dwellers because of its contribution to food availability and income generation. It is the survival strategy for low social classes to cope with the declining standard of living. The other activities in which poor urban dwellers participate in order to secure a living are construction work, sewing, woodwork, beadwork and informal trading.

Major activities of urban agriculture includes cultivation of field crops, horticulture, ornamental plants and livestock keeping and are faced with with severe agroclimatic, socio-economic and institutional constraints. Wide ranges of ethnic groups participate in urban agriculture and mostly have their own experience since they came from farming environments. Women are more active and responsible for home gardening in high density areas whilst men are more active in open space cultivation. It is therefore recommended that city authorities accept urban agriculture as a reality and then come up with policies that will create an enabling environment for the urban growers.

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## ACRONYMS AND ABBREVIATIONS

<b>ANC</b>	African National Congress
<b>ARC</b>	Agricultural Research Council
<b>CMA</b>	Cape Metropolitan Area
<b>DFID</b>	Department for International Development
<b>CIRAD</b>	Centre for Integrated Rural Development
<b>D'MOSS</b>	Durban Metropolitan Open Space System.
<b>FAO</b>	Food and Agricultural Organisation
<b>FGF</b>	Food Gardens Foundation
<b>MDF</b>	Macassar Development Forum
<b>NGO</b>	Non governmental organisation
<b>PLAAS</b>	Programme for Land and Agrarian Studies
<b>IDRC</b>	International Development Research Centre
<b>UP</b>	University of Pretoria
<b>UPA</b>	Urban and peri-urban agriculture
<b>QPC</b>	Quaker Peace Gardens
<b>RDP</b>	Reconstruction and Development Programme
<b>RUAF</b>	Resource Centre on Urban Agriculture and Forestry
<b>SCAGA</b>	Siyazama Community Allotment Garden
<b>SIUPA</b>	Strategic Initiative for Urban and Peri-Urban Agriculture
<b>SUL</b>	Sustainable urban livelihoods

## Chapter 1

### Introduction

#### 1.1 Background

Eight hundred million people worldwide are involved in urban or peri-urban agriculture (Consultative Group on International Agricultural Research, 2000). Half of the world's population now lives in towns or cities. By 2020, nearly two billion people will be urban dwellers, increasing the threat to food security, the urban environment and quality of life.

Policy makers need appropriate information and to address the urbanization of poverty and to prevent the dire social, economic and, in particular, environmental degradation, that is possible unless adequately handled.

The rapid pace of urbanization is particularly evident in the developing countries. Eight of the nine cities expected to have more than 20 million people by 2020 are in Asia, Africa or Latin America. With food insecurity and unemployment expected to worsen, urban and peri-urban agriculture will be an increasingly important livelihood option for the urban poor (Consultative Group on International Agricultural Research, 2000).

Urban farming is an ancient strategy for feeding city dwellers. The dramatic increase in the rate of urbanization and the size of cities during the 20<sup>th</sup> century highlights the importance of urban agriculture as a means of providing for household security and poverty alleviation.

In South Africa, results of the 1996 census show that 55.4% of the population lives in cities, while of the 55.4% live in metropolitan areas. On average 24.4% of the urban households are classified as poor, but 54.5% of these poor live in metropolitan areas (Rogerson, 1998). Most of the poor are concentrated in townships on the outskirts of towns.

The problems and constraints of urban agriculture are particularly evident in the Cape Flats area of the Western Cape province. A survey carried out by Meadows (2000) indicates that a large number of residents in that community are engaged in crop production. The majority of gardeners are usually unemployed; middle-aged females, with some degree of farming



experience. The gardeners get very little extension or financial support from government and local authorities. Most of the support comes from the local environment NGOs which, however, have been experiencing problems, especially lack of adequate funding and lack of capacity.

Meadow's (2000) research concentrated on describing agricultural activities in Cape Flats area. However, it did not address the issue of the role of urban agriculture in securing household food security and income. Very little research has been conducted to identify **livelihood strategies** of the residents and the role urban agriculture plays in these strategies. The focus of this report is to address these matters and provide baseline information for policy makers to develop appropriate support measures for urban agricultural activities in this area.

## 1.2 Objectives

The overall goal of this study is to focus on livelihood strategies adopted by the households involved in urban agriculture on a case study basis. The specific objectives were:

- To thoroughly describe a number of household experiences and case studies.
- To determine the main livelihood strategies adopted by urban households.
- To describe the role of urban agriculture in these strategies.
- To determine the opportunities, risks and constraints associated with urban agricultural activities with regard to available resources and markets.
- To assess how the livelihoods of urban poor would be affected by future expansion of urban agriculture.

## 1.3 Terminology and definitions

- **Urban agriculture.** Urban agriculture, the main concept of this study, is defined by the United Nations Development Programme (1996) as "an activity that produces, processes, and markets food and other products, on land and water in urban and peri-



urban areas, applying intensive production methods, and (re) using natural resources and urban wastes, to yield a diversity of crops and livestock" (see Table 1)

**Table 1: Most common resource-based productive systems in urban areas**

Farming system	Expected Outcome	Place location /technique within the urban locality
Aquaculture	Fish, seafood, vegetables, fodder	Ponds, streams, cages, lagoons, wetlands
Horticulture	Vegetables, fruits and compost	Homesteads, parks, containers, roof tops, wetlands, hydroponics, greenhouses
Livestock keeping	Milk, meat, eggs, hides, manure	Zero grazing, hillsides, peri -urban areas
Agroforestry	Wood fuel, fruits, building posts, fodder	Street trees, forest parks, homesteads, steep slopes, wetlands, orchards, green belts.
Other systems	House plants, medicinal herbs, beverages and flowers	Floriculture, roof top, container farming, gardening, container farming, roadsides, urban forest

Source: Sawio (1998)

- **Peri-urban areas** refer to areas not proclaimed as urban areas, which are adjacent to, proclaimed urban areas. Wolpe (1995) states that the peri-urban areas of the CMA, consist of Stellenbosch/ Bellville/Parow, containing highly fertile land.
- **Urban influenced areas** can be rural areas, but the city has a magnet role on people's livelihoods (temporary migrations, commuting and job opportunities).
- **Livelihood** a definition of a livelihood is that "it comprises the capabilities, assets, and activities required for a means of living" (Carney, 1998), i.e. seeking an answer to the question as to how people live and make ends meet?" The concept of livelihood seeks to convey the non-economic attributes of survival, not just the economic ones; it therefore includes, *inter alia*, the social relationships and institutions that mediate people's access to different assets and income streams (Ellis, 2000).

- **Strategies** A strategy may be defined as the combination of processes (plans, decisions and acts) that an individual or a group of individuals (a firm, a family, etc.) develop purposively, and which aim at changing/transforming their social, economic and/or physical environment. Such processes combine resources and/or techniques and/or knowledge and know-how (Oliver de Sardan, 1995). Yung (1998) states that “individuals develop strategies as responses to a changing and uncertain environment, in order for them to duplicate, transform a given lifestyle that corresponds to an objective, as a group or as individuals. The crops, crop management sequences, activities, and so on, that the individuals combine and mobilise, reflect such strategies”.
- **Subsistence production** is the condition of just having enough food to stay alive (Essential Dictionary). It consists of the production of goods and services by and for household’s members which have the possibility of being replaced by the market goods or paid services when there is an opportunity (Engberg, 1991). This includes the production of food, fuel, fibre, livestock, handicrafts and housing, clothing and other material goods produced for home consumption. It also includes activities and services such as unpaid agricultural work and domestic work (the farming, cooking, gathering, cleaning, food preservation and storage, child-minding, etc).
- **Household** is a group of related individuals who share a home, share meals and pool their resources for the benefit of the group (Botha, 1999). It is the smallest of social organisations - the micro systems within a larger hierarchy of social system within each nation, and they are the part of the total ecosystem.

#### 1.4 Advocacy on urban and peri-urban agriculture

Mougeot (1994), cited by Karaan & Mohammed (1996), points out that urban authorities, policy makers and municipalities can no longer neglect the significance of urban and peri-urban agriculture as statistics reveal clearly that globally about 20 million urban dwellers are now farmers and backyard gardeners, providing food security and income to approximately eight hundred million people.



In South Africa the Reconstruction Development Programme and African National Congress agricultural policy promote urban agriculture by improvement in household food security and to provide support for the resource- poor agriculture. Other policy documents for example the (GNU's) *White Paper on Agriculture* argues for the eradication of poverty through urban agriculture and stress the need for future research to develop it, (Ramphela & Boonzaier 1988) describes it as uprooting poverty. Rogerson (1996) states that among the several stated objectives of the RDP is to eradicate poverty, employment inequalities and low wages to meet basic needs and thus to ensure that every South African citizen has a decent living. The majority of poor people are located in rural areas in former Bantustans; increasingly the geography of poverty is shifting to urban areas, urging the need for production of food in cities and towns.

May & Rogerson (1995) state that in Cape Town poor urban households spend an estimated 40 to 50% of their income on food purchases and in the peri-urban areas of Kwazulu, close to metropolitan Durban, up to 52% of all households spend their income on food. This reveals that expenditure on food represents the highest single household expenditure item. Rogerson (2001: p.18) cited a Soweto case study that concluded that, "*Urban agriculture is a successful strategy for immediate relief of hunger, malnutrition and is way for women to gain a food hold in the urban economy*". Urban agriculture is a component of resource poor agriculture with new strategies and innovations looking for improved livelihood. The significance of urban agriculture has also been recognised by the Pretoria Technikon, which is intending to offer a two years diploma course on the subject (Fisser, 1996: p.95).

(Rakodi, 1993) states that "*urban agriculture is a productive activity that has a potential both as diet and as an income supplement for poor household.*" For an example 25% of urban families in the six major African cities claim they cannot survive without self-produced food. (Tinker, 1994).

Urban and peri-urban agriculture has been accepted by the international community because of its significance in relation to poverty alleviation (Rogerson, 2001: p.17). The International Development Research Centre (IDRC) with its enviable perspicacity, became the first major international agency to recognise the importance of urban food production (Tinker, 1994). The FAO followed by establishing a specialised support division for urban and peri-urban

agriculture. The Strategic Initiative for Urban and Peri-urban Agriculture (SIUPA) and electronic conferences on urban agriculture co-ordinated by FAO- RUAF/ETC with the objectives to bring together, exchange lively ideas, and discuss experiences gained with a variety of methodologies applied in urban agriculture research, policy development, spatial urban planning, project planning, implementation and evaluation.

## 1.5 Structure of the report

The report is composed of six chapters. Chapter 1 gives a general perspective, definition of terms, and problem statement of the study. Chapter 2 reviews a body of literature review on urban and peri-urban agriculture and sustainable livelihood framework. This chapter focuses on the experience throughout the world, Africa and South Africa. Chapter 3 explains the methodology and survey approach. This includes data collection and the framework of analysis. Chapter 4 describes case studies of urban agriculture in Khayelitsha and assets-base. Chapter 5 discusses the livelihood strategies of the households surveyed, demographic characteristics of the surveyed respondents, results, benefits, constraints, and risks associated with urban agriculture and typology of urban agriculture in Khayelitsha. Chapter 6 discusses policy issues pertaining to urban and peri-urban agriculture with regard to the rejection and acceptance of urban agriculture in South Africa and concludes by calling for attention to urban and peri-urban agriculture by policy makers, government officials, researchers and those who realise the need for its reform.

Karim & Mohamed (1996) state that South African urban planners, policy makers, researchers and practitioners do not have a strong tradition of urban agriculture and it is essential to draw experience from international contexts so as to gain a better understanding of the activity. International literature reviews outline vegetable production in highly dense urban areas in other parts of the world, and it is from their successes and experiences that South African officials and planners should deduce the potential of urban agriculture in our densely populated urban areas.

In the United States of America, Manhattan city (Schneidersopf, 1996) and North Denver (Fradford 1993; Klinkenberg, 1995) offer some valuable suggestions to policy makers with regard to the potential of urban agriculture. Ebedford (1989b, p 54) states that "the trend of city farms are a new and growing phenomenon, these city farms are community projects working with farm animals and gardening, situated on areas of derelict land in the centre

## Chapter 2

### Literature Review of Urban and Peri-Urban Agriculture

#### 2.1 Introduction

The literature on urban agriculture has been on the increase due to number of reasons since the late 1970's. There has also been a very considerable increase on urban agriculture literature since 1992 (Hardoy, Mitlin & Satterthwaite, 2001: 280). Researchers are gaining interest in this topic which is becoming overwhelmingly important. Rural people from farming environments are migrating to cities; many people in urban areas are not earning enough income from the formal sector needed to meet basic needs and there will be urban agriculture, and moreover the formal sector is unable to employ rural people. Urban areas are also facing three processes namely, they are becoming huge metropolies, with growth uncontrolled, they are faced with increasing poverty and food supply is a problem.

#### 2.2 International literature on urban agriculture

Karaan & Mohamed (1996) state that South African urban planners, policy makers, researchers and practitioners do not have a strong tradition of urban agriculture and it is essential to draw experience from international countries so as to gain a better understanding of the activity. International literature reviews outline vegetable production in highly dense urban areas in other parts of the world, and it is from their successes and experiences that South African officials and planners should deduce the potential of urban agriculture in our densely populated urban areas.

In the United States of America, Manhattan city (Schmelzkopf, 1996) and North America (Frodhard 1993; Klinkenborg, 1995) offer some valuable suggestions to policy makers with regard to the potential of urban agriculture. Eberhard (1989b: p.54) states that: "*In Britain city farms are a new and growing phenomenon, these city farms are community projects working with farm animals and gardening, situated on areas of derelict land in the centre*



*and edges of towns and cities.*” In Asia several studies have alerted policy makers, planners and authorities to the significance of urban agriculture (Yeung, 1985, 1986, 1987, 1988; Latz, 1991) cited by Rogerson (1993: p.35). In China, policy makers and the positive attitude of public authorities have greatly enhanced the role of urban agriculture (Hardoy, Mitlin & Satterthwaite, 2001). Before 1998, urban agriculture was virtually unheard of in Cuba, but today there are 28,000 kitchen *huertos* or gardens, run by almost 10,000 people (Gilmore, 2001: p.60).

In Latin American, countries such as Peru, Brazil and Argentina, urban agriculture could save a poor household 10% to 30% of its food cost, which is approximately 20% of its income (Gutman, 1987). In Peru, urban gardening is a food production strategy that has been promoted in the form of backyard gardens or community food gardens to provide balanced nutritional requirements needed to meet a balanced diet.

### 2.3 Africa

In Africa, urban agriculture for food and economic survival is a widespread practice (Rakodi, 1988; Rogerson, 1993; Mbiba, 1994; Maxwell & Zziwa, 1993). For example 25% of urban families in the six major African cities claim they cannot survive without self-produced food (Tinker, 1994). To cite a few examples from Africa, by the early 1990s, 50% of urban area in Tanzania, was farmed by about 30 percent of the total population. In Zimbabwe, Harare open space cultivation increased from 4 822 hectares to 8 392 hectares from 1990 to 1994 (Dierwechter, 2000). In Tanzania harsh economic booms of the country resulted in the expansion of urban agriculture. At least 90% of home gardeners and fields were used to grow crops for home consumption (Mlozi, Lapanga & Mvena, 1992). Also in Tanzania, people of all economic, socio-economic statuses are now undertaking urban agriculture throughout towns and cities (Mlozi, 1997: p.116). In Kenya two-thirds of urban households live partly on subsistence agriculture and 29% of these household produce food in cities (Lee-Smith & Lamba, 1991). In Ethiopia, for some families, growing their own food is their only means of survival (Lee, 1993: p.1). In Zambia it was estimated that 57% of low-income households cultivate gardens to supplement family food supply (Eberhard, 1989b: p.29).

## 2.4 South Africa

In South Africa, Eberhard (1989a) studied the potential of urban agriculture in Cape Town, such research highlighted pessimistic figures that: home gardening is economically insignificant and accounting for less than 1% of the monthly budget of a household living at household subsistence level. However it probably overlooks the rest contribution of urban agriculture to livelihood systems. Eckert, Liebenberg & Troskie (1997) state that unlike many other cities throughout Africa, Asia and Latin America, household-based food production in Cape Town is insignificant. On the other hand (Meadows, 2000: p.114) concludes that the fact that urban farming exists in the townships and that there are NGOs dedicated and committed to providing support services for vegetable gardeners, suggest that there is significant support for the practice. Slater (2001: p.3) contests Eberhard (1989b): *“If urban agriculture has little to offer by way of income generation or substitution then why do so many households in the townships of Cape Town continue to endeavour to produce vegetables.”*

De Necker & Uys (1995) conducted a study on urban manager’s perceptions with regard to urban agriculture in Greater Cape Town. Their findings reveal that urban managers perceive urban agriculture as being of a temporary nature and economically insignificant. Migrants moved to cities in search of jobs and they have to adapt to city life, accommodating urban agriculture hampers densification and leads to urban sprawl. De Necker & Uys (1995: p.3) point out: *“Apart from five working paper series on urban agriculture by Town Planning Branch of Cape Town City Council, most officials were unaware of the available literature and moreover substantial body of literature does not reach intended target.”*

## 2.5 Sustainable livelihood framework

Singh & Gilman (1999, 540) state that: livelihood systems consist of a complex and diverse set of economic, social, and physical strategies. These are realised through activities, assets and entitlements by which individuals make a living. Singh & Gilman (1999, 540) go on to define sustainable livelihoods as those “derived from people’s capabilities to exercise choice, access opportunities and resources and use them in ways that do not foreclose options for others to make their living, either now, or in future.” In consolidating the existing knowledge and identifying knowledge gaps the research was guided by the Sustainable Livelihood



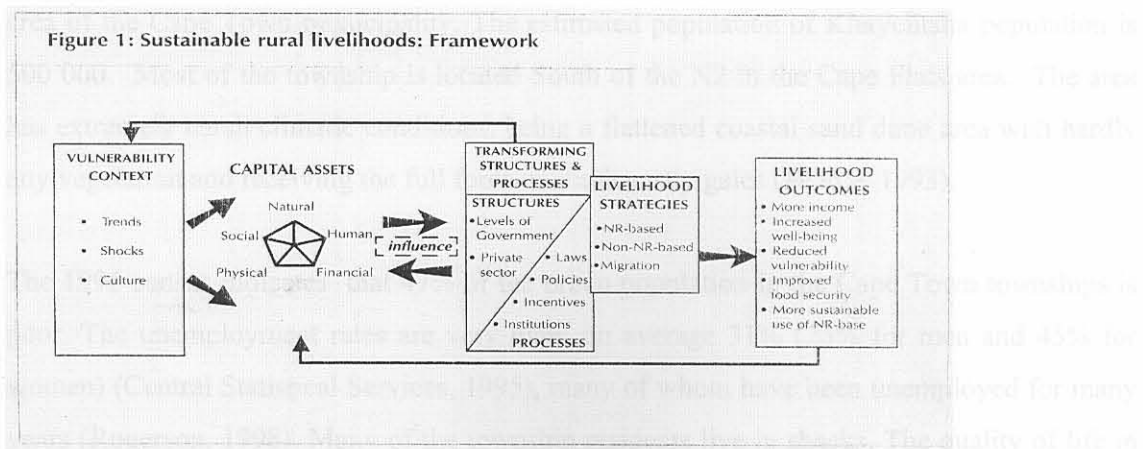
Framework developed by the Institute for Development Studies, at the University of Sussex, and adapted to accommodate the DFID’s concerns as described in the book *Sustainable Rural Livelihoods: What contribution can we make?* (Carney, 1998).

*Methodology and Analytical Framework*

The Sustainable Rural Livelihoods approach exists as an hypothesis, namely that the integrated management of livelihood assets in rural areas is a universally applicable means of eliminating rural poverty (Carney, 1998). This report’s hypothesis is that it is also true for urban areas and the framework will be used in the analyses in chapters 4 and 5. The livelihood framework makes explicit the multiple dimensions of livelihoods, which are pursued by individuals and social groups. It draws attention to the fact that livelihood is more than monetary income, but embraces local values systems, preferences and the strategies people adopt to fulfil their aspirations.

*3.2 The study area*

Livelihoods are not just analysed at household level. Wider social relations beyond household and community underpin the circumstances in which people are vulnerable. Intra-household relations between men and women and between generations are highly significant. Membership of networks can influence access to resources and are discussed under social assets. Household strategies and individuals are also linked to policies, institutions and processes outside the household. Some of factors which increase the vulnerability of urban poor are political factors, market fluctuations which affect prices of essential goods and demand for labour, environmental damage, rapid urban growth and limited resources. An important constraint in the South African context is the insecure tenure and limited access to land.



Source: Adapted from Carney (1998). DFID

## Chapter 3

### Methodology and Analytical Framework

#### 3.1 Literature review

Literature on urban agriculture was explored and some information was gleaned from it. Policy documents, book chapters, research reports, academic journals, conference papers, government publications, urban agriculture magazines, *Vukani News*, journals and conference papers, NGO communiqués and Internet.

#### 3.2 The study area

Khayelitsha was chosen as a study area because a lot of work has already been done there, it forms a serious background for further investigations on livelihood system and the role of urban agriculture. It was also chosen because of numerous 'projects' thereby pushing people to undertake some urban agriculture and moreover the practice of agriculture in urban areas is more organised in Cape Town than Gauteng province. As a Xhosa speaking person by birth, I was interested in working with my own people because Khayelitsha's population is mainly Xhosa.

The research was conducted in Khayelitsha, a poor urban township located in the Cape Flats area of the Cape Town municipality. The estimated population of Khayelitsha population is 500 000. Most of the township is located South of the N2 in the Cape Flats area. The area has extremely harsh climatic conditions, being a flattened coastal sand dune area with hardly any vegetation and receiving the full force of south eastly gales (Pearce, 1993).

The 1996 census indicates that 47% of the urban population in the Cape Town townships is poor. The unemployment rates are very high, on average 31% (23% for men and 45% for women) (Central Statistical Services, 1995), many of whom have been unemployed for many years (Rogerson, 1998). Many of the township residents live in shacks. The quality of life in the township is very poor due to very high crime rate and lack of tangible assets, such as a shortage of housing, inadequate provision of services, lack of community facilities, poor

quality of public open space and environmental degradation (Karaan & Mohamed, 1996).

### 3.3 Consultations

Semi-structured interviews or consultation were conducted with variety of urban managers between November 2001 and March 2002, (see Appendix A1). The use of the key informants technique provided information on policies and practices. Opinions expressed by the respondents are interspersed in boxes to illustrate, support or rebut findings gleaned from the literature.

### 3.4 Introduction to the community

Abalimi Bezekhaya (environmental NGO in Khayelitsha) was used as an entry point to the community. A week was spent with them visiting community gardens around Khayelitsha and Nyanga. Abalimi Bezekhaya field-workers introduced the proposed research to the project members. Abalimi Bezekhaya gave advice on the selection of community food projects as they are widely spread in Khayelitsha. In order to be accepted by the field-workers of Abalimi Bezekhaya, the research started through some field-work undertaken with people. A project in Mitchell's Plain has been initiated with one of the tireless field workers and facilitated further investigation.

**Table 2: Research schedule**

Activity	Schedule	Institution
Introduction to community projects/ Preliminary talks	November 2001	Abalimi Bezekhaya
Introductory field work	November 2001	Abalimi Bezekhaya
Selection of community food gardens / project schemes	November 2001	Abalimi Bezekhaya
Sampling	November 2001	Researcher
Interviews	December 2001	Researcher
Literature study	December 2001	University of Stellenbosch
Interviews	January 2002	Researcher
Literature study	January 2002	University of Stellenbosch
Interviews	February 2002	Researcher
Literature study	February 2002	University of Stellenbosch
Interviews	February 2002	Researcher



Literature study	February 2002	University of Stellenbosch
Consultations / Informant interviews	March 2002	Tygerberg City Council
Consultations / Informant interviews	March 2002	Tygerberg City Council
Analysis	May-June 2002	UP & ARC
Report writing	June – Nov 2002	UP & ARC

### 3.5 Sampling procedures

The survey constituted a sample of 50 households in the formal and informal settlements of Khayelitsha. Survey sites 4, 5, 6, 7, 9, 10 and 12 are located in formal housing areas in Khayelitsha (see figure 2), whereas sites 3, 8 and 11 are informal settlements. The urban agricultural projects or community food gardens surveyed are at sites 2, 3, 4, 6, 7, 8 and 9. These urban agricultural projects were selected through the help of Abalimi Bezekhaya. The households were sampled along a transect walk across the settlement. Respondents of the transect walk can be considered as a more representative sample because most of the respondents interviewed were selected as a result of their involvement in agriculture. Stratified sampling was used. Stratified household surveys allow a clearer understanding of how the nature of local rural-urban linkages affects the livelihoods of different groups (Tacoli 1998).

### 3.6 Interviews

Interviews were conducted on the second week on community food projects or schemes and then at household level. The community food projects as well as households were studied in line with the sustainable livelihood framework. Trust was established through preliminary talks and introductory field-work. Gardeners were willing to participate and they took the researcher to individuals (backyard gardeners) who were not supported by Abalimi Bezekhaya. Fieldwork involved the use of 10 a page questionnaire, semi-structured interviews, informal interviews with the field workers and participatory observations during field visits. The observational method helps to collect data that cannot be accessed through the use of the pen such as by filling in questionnaires (Moloto, 1996).

The gardeners were interviewed at their homes or their gardens about livelihood issues and urban agricultural activities. Structured interviews were chosen because the questions were carefully worded and followed a set order.

Standard methods of socio-economic research were used to assess the resident's livelihood activities and their attitudes to and perceptions of urban agriculture. The participatory tools include qualitative and quantitative methods such as structured interviews, transect walks, income and expenditure matrices, and informal discussions. The combined usage of these methods has the advantage that the data are gathered in both a quantitative and qualitative manner. Income and expenditure matrices were used to help quantifying the resident's sources of income and their expenditures. Semi-structured interviews, trend analysis, matrix ranking and transect walks and similar participatory tools were used to provide detailed answers to the relevant issues raised in the survey.

### 3.7 Data analysis

Data was analysed using the statistical programme GenStat for Windows (2000). The 50 respondents' answers to the questions were summarised in tables, according to the number of categories set up. From these counts, or frequencies, percentages were calculated.

To establish if there were any relationships between answers (the variates) to some questions, Spearman's rank correlation coefficient was calculated, as the data from the survey was discrete (categorised) and not continuous. Spearman's rank correlation coefficient is a measure of association between the ranking of two variates.

Note that this only shows the extent to which two variates are associated and does not imply any causal relationship between them (Siegel, 1956). Generally, a coefficient of about  $\pm 0.7$  or more is regarded as indicating a fairly strong correlation, and in the region of  $\pm 0.9$  it indicates a very strong correlation. In the region of  $\pm 0.5$  the correlation is moderate, and in the range  $-0.3$  to  $+0.3$  it is weak (Rayner, 1969). For example, if  $r = 0.5$ , even if statistically significant, the  $R^2 = 25\%$ . This indicates that 25% of the variation of each variate is accounted for by the relationship between the two variates, but 75% variation remains unexplained.

### **3.8 Difficulties and constraints**

It is very difficult to conduct a transect walk in township like Khayelitsha or to visit the community without a person residing in that area. A community member or community based facilitator should accompany a researcher to home gardeners. A researcher has to use people from an existing project as an entry point to the community. Interviews carried out in townships during weekdays risk the bias of overrepresentation of unemployed or home-based workers, and excluding the fully employed.

It is also very difficult to get an accurate picture of the quantities and value of production from urban agriculture because production is seasonal, household members consume produce and sales are intermittent.

### **3.9 Role of the researcher**

During the introductory process at the beginning of each interview, the respondents were assured that their names will be anonymous and that the contents of the interviews were to be known only to my supervisor and myself.

The respondents were told during the conduct of each interview that the research was carried out for Masters research and that they can benefit from it because the findings will be shared with them through Abalimi Bezekhaya. It was also specified that the work aimed at helping poor people by alerting policy makers and government officials about their activities, problems and innovations.

### **3.10 Geography and environment**

#### **3.10.1 Khayelitsha**

The township of Khayelitsha is situated along the northern shoreline of False Bay some 35km south-east of Cape Town. Khayelitsha is bounded on the northern side by the N2 freeway and on the southern side by Baden-Powell Drive and False Bay.

The town was established by the government of South Africa in April 1983 and announced as

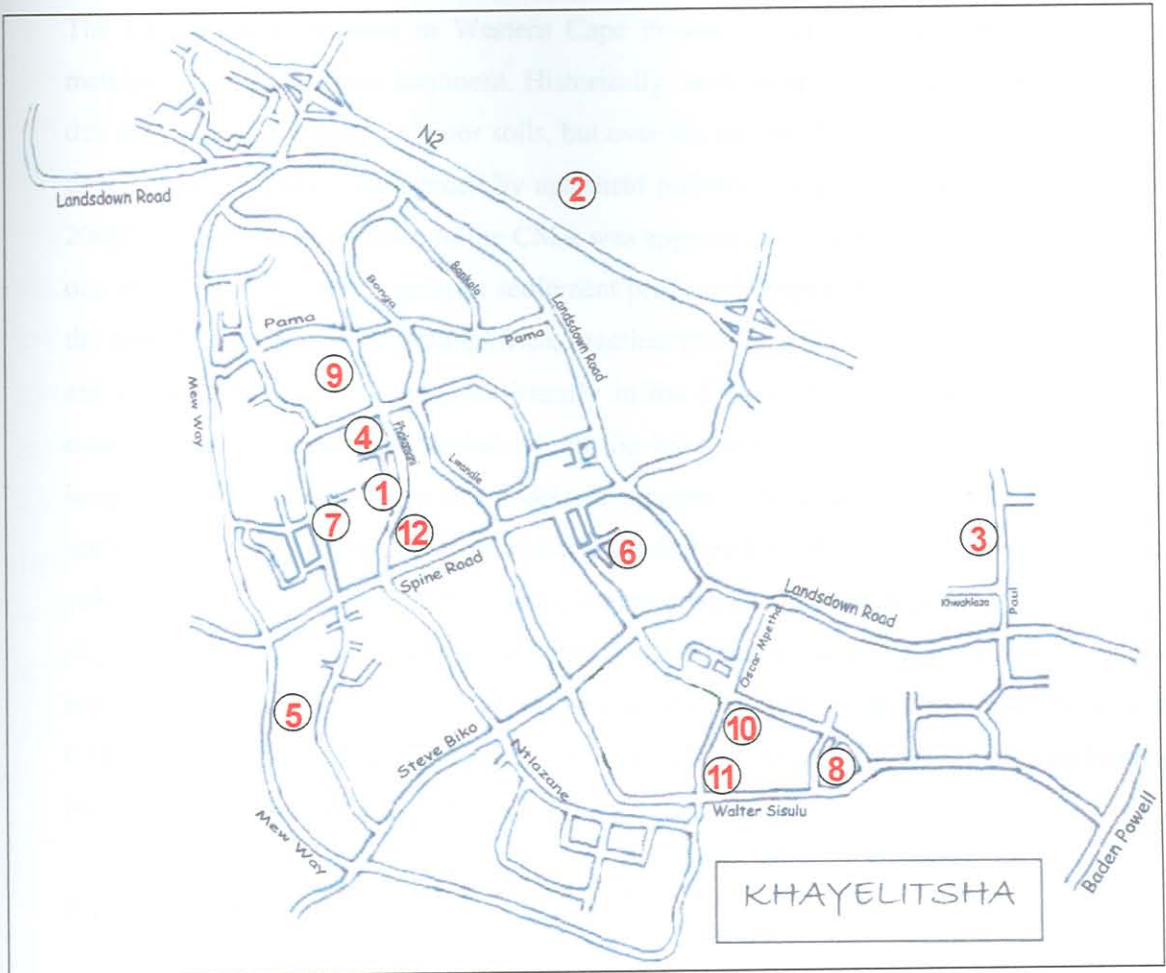


a 'new African city' called Khayelitsha. The original idea behind the establishment of the new African city was to move residents of other 'African' townships and squatter camps in Cape Town to this area. Rogerson, (1996: p.11) points out that Cape Town is an African city confirmed by the cattle that graze on the verge of the highways just outside the city's international airport. However, rapid urbanisation has led to a situation where most of Khayelitsha's inhabitants originate from outside the Cape Metropolitan Area (CMA). Even today many people still arrive and settle in the area in search of work. Exact figures on the population of Khayelitsha are not available. The area was set up to accommodate 250 000 people (Dewar & Watson, 1991). Wright, Kloppers & Fricke (1993) pointed out that the official figure of the population by 1990 had reached 320 000, with an expected population of some 750 000 by the turn of the century (See Figure 2).



Figure 2. Areas of study in Khayelitsha

- Key
- 1. Khayelitsha Garden Centre
  - 2. Eden Community Garden
  - 3. Exum Esakha Isithyo
  - 4. Namsa Makhongwane
  - 5. Isiba Park
  - 6. Mnyazi Community Garden
  - 7. Nonyela Community Garden
  - 8. St. AGA Community Garden
  - 9. Quaker Peace Garden
  - 10. Kaysa section 1
  - 11. Maccassar
  - 12. Khayelitsha Section F.



**Figure 2. Areas of study in Khayelitsha**

**Key**

- 1 *Khayelitsha Garden Centre*
- 2 *Eden Community Garden*
- 3 *Esam Esakho Isitiya*
- 4 *Nomsa Maphongwane*
- 5 *Ilitha Park*
- 6 *Manyano Community Garden*
- 7 *Nondyebo Community Garden*
- 8 *SCAGA Community Garden*
- 9 *Quaker Peace Garden*
- 10 *Kuyasa section*
- 11 *Maccassar*
- 12 *Khayelitsha Section F.*

### 3.10.2 Cape Flats settlement history and socio-economic characteristics

The Cape Flats is situated in Western Cape Province, and are part of the southern-most metropolis on the African continent. Historically, settlement on the Cape Flats was avoided due to its exposed aspect and poor soils, but over the past 60-70 years it has undergone urban development, a growth influenced by apartheid policies and population pressure (Meadows, 2000). In 1996 the population of the CMA was approximately 2.56 million. The Cape Flats is one of the areas under the greatest settlement pressure. Despite its economic status as one of the most favoured areas in South Africa, practical problems such as poverty and unemployment are widespread in Cape Town, particularly in the Cape Flats townships, which almost the entire African population is settled within the low-income category. There are particularly inequalities in unemployment and access to services. The distinctive patterns of residential settlement inherited from the apartheid era are featured by the segregation of Africans and coloureds into separate peri-urban areas, which continue to proliferate due to the influx of migrants from rural areas, particularly from the former Ciskei and Transkei. Movement between townships and informal settlements accounted for over half the movements within CMA, particularly the township areas of Crossroads, Nyanga, Gugulethu, Browns Farm and Philippi (Cross, Bekker & Eva 1999).

### 3.10.3 Climate

The average annual rainfall of the Cape Flats area ranges from 500 to 800mm, which is less than the other parts of Peninsula, which receive between 500 and 2600mm annually (Meadows 2000: p.22). The most rain occurs in winter and result into flooding. The general climate is characterised by wet winters and hot dry summers. In summer the winds blow from the South-easterly or South-westerly winds. The latter is the prevailing wind in Cape Town.



### 3.10.4 Soil

The terrain and soil investigation by the Department of Soil and Water Science of the University of Stellenbosch in the Driftsands area next to the N2 road opposite Khayelitsha shows that soil quality is extremely poor for the whole Driftsands area (Kleynhans & Myburgh, 1992: p.2). Wright (1995) state that in Khayelitsha a feature of the sediments is the presence of shelly material over the most of the area. The sand body is generally stratified horizontally and several lithostratigraphic units can be recognised. The main units are the Langebaan, the Witzand and the Springfontein formation. In the Langebaan formations calcite layers can be found. These layers are very irregular in shape and thickness and are often at the surface. They are found at places within the Scaga garden, surveyed site 8 in figure 2. The high calcite content of the soil results in very high pH values (pH 8-9). These soils are very poor (low nutrient content, low CEC). This is especially true in those areas where natural vegetation has been sparse or where the original topsoil (with a higher organic matter content) has been eroded.

The majority of surveyed respondents mentioned that the soil is very sandy and problematic.

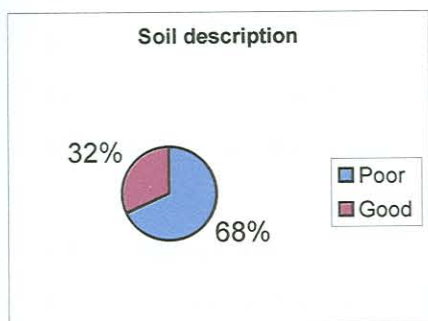


Figure 3.

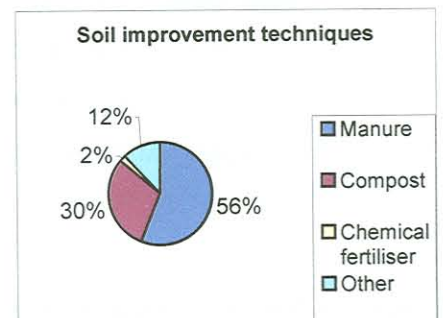


Figure 4.

The most common opinion expressed by the gardeners about the soil condition is that it is poor (68%). A total of 32% describe their soil to be good and fertile. Soil fertility is low and 56% of the gardeners are using organic manure, 26% make use of compost while 4% are using lawn grass and crop residues and 12% are using other methods such as manure from intestines of slaughtered animals and by-products of homemade beer. Only 2% of the respondents make use of inorganic fertilizer to improve soil condition. Manure is obtained from the local people who have livestock and the Khayelitsha Garden Center is selling a plastic bag of manure for R2.50.

## Chapter 4

### Urban Agriculture Projects in Khayelitsha

This section discusses seven case studies of gardening groups in Khayelitsha. The information included in each case studies refers to project establishment and membership, motivation, living and strategies, livelihood outcomes and assets, access to resources and natural capital, support service, skills, crops grown, problems experienced, marketing strategies and successes and failures.

#### 4.1 Umanyano Lomama ‘Woman’s Unity’: Site 6 on Figure 2

##### 4.1.1 Establishment and membership

Mavis, the project leader told a very sad story: *“One of our community members sexually abused (raped), molested a kid because she was asking for food. If the child is hungry and is asking food they sleep with them before they can give them food.”* The group consists of 13 women with ages ranging between 40 and 60 years. All the group members come from the Transkei and stay in Town 2 informal settlement. Before one becomes a member one has to be a volunteer for some time without paying a joining fee. The respondents mentioned that some members pull out of the project because of unrealistic expectations but another three members joined them. As one respondent commented: *“Community residents join the project with the hope that they will be employed and get a salary at the end of the month.”*

##### 4.1.2 Motivation

The main motive for starting the community food garden is to access food and generate money. They also started a school vegetable garden to improve the nutritional status and consequently the health of school children and to instil the habit of growing vegetables. Children at Chuma Primary School were stealing food from their classmates and money from their teachers. The project is feeding 98 children daily from the food they grow in their gardens.

- Solidarity and aid
- Cash income
- Sustainable use of natural resource





**Plate 1: Womens Unity and school children**

#### **4.1.3 Living and strategies**

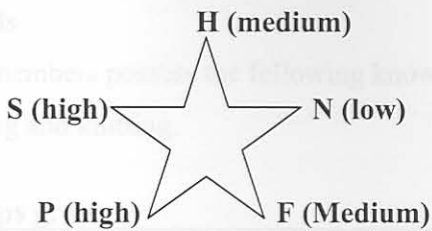
The members are gardening to access food and cash income. They sell vegetables for R2.50 a bunch of spinach and earn R40.00 to R50.00 a day and record the sales. During the summer season total income received from selling vegetables per month ranges from R1 000 to R1 300. During the winter season the total income received from selling vegetables per month ranges from R300 to R400. Each individual member gets a R100 share a month from the income generated from selling vegetables. They also self-consume from the garden. Sales occur on the project site with buyers coming to the project. This saves the producers transport costs to the market and also saves on storage costs as the produce is harvested when the consumer needs it. Respondents are also involved in informal trading of sheep's heads and trotters and one member is selling African beer. They have crèche at the church with soup kitchen (community services). The parents of the children in pre-school pay R40 a month per child and R50 for an infant in nappies. They pay themselves with money earned from pre-school. As one respondent commented: *"We are flexible here, some parents do not have money to pay us."*

#### **4.1.4 Livelihood outcomes and assets**

- Food supply/Domestic food security
- Solidarity and aid
- Cash income
- Sustainable use of natural resource



As one respondent commented: “The kids at school were suffering from sicknesses such as malnutrition and kwashiorkor, but now they are healthy and teachers say they are performing very well at school.”



In this diagram, asset-base are being analysed in relation to the projects where H is human capital, S is social capital, P physical capital, F is financial capital and N is natural capital (See Figure 1).

The main factor behind the success of this project is the strong social capital (solidarity) amongst members, which is important in gaining access to other forms of capital.

**4.1.5 Access to resources and natural capital**

They have one hectare of school land and two hectares from the church. The soil quality is extremely poor, requiring manure and compost. The problems relating to the soil include poor fertility, rapid evaporation and wind blowing the sand away, resulting in exposed plant roots. Water is obtained from the school tap and municipal water connection at the church. They pay R100 a month for water to the church but they claim that there is some degree of flexibility because the church pays sometimes. Abalimi Bezekhaya also installs drip irrigation equipment. The use of drip irrigation instead of sprinkler reduces loss of water before it reaches the bed and moreover strong wind increase unnecessary loss of water. Watering of plots is done by hosepipe. The women do not currently recycle grey water because they perceive grey water as dirty, containing impurities and unsafe to plants.

**4.1.6 Support service**

The Equal Opportunity Foundation donated a tractor and implements (fork, spade, wheelbarrow, rakes, hosepipes). Food Gardens Foundation gave them paint for the pre-school. Abalimi Bezekhaya are supporting them with seedlings, irrigation equipment and training but the members are dissatisfied with Abalimi’s support because of jeopardized social capital. A three-day course of Abalimi Bezekhaya covers the following subjects:

garden design, trench bedding, soil preparation, compost making, seed sowing, seed transplanting, watering, vegetable care and maintenance and pest control. This project is sustainable and can operate without the support of Abalimi Bezekhaya.

**4.1.7 Skills**

The group members possess the following know-how: gardening, child minding, domestic work, sewing and knitting.

**4.1.8 Crops grown**

<i>Summer</i>	Spinach, Tomatoes, Green pepper, Beetroot, Carrots
<i>Winter</i>	Spinach, Cabbage, Lettuce, Onion

**4.1.9 Problems experienced**

Social capital is jeopardized by Abalimi Bezekhaya and is considered to be the main drawback limiting the success of the project. As one respondent commented: *“Abalimi Bezekhaya are using us when they need funding and they give us 10 percent of money received from donors. We want funding to come straight to us not to Abalimi.”* They also complained about the lack of human capital such as follow-up training from Abalimi Bezekhaya. The respondents also mentioned that natural capital such as insufficient supply of water and shortage of land as major problems. The respondents mentioned that water pressure is low at Chuma Primary School because the school is watering their flower garden and the school children also drink water from the same tap.

**4.1.10 Successes and failures**

This is the most remarkable group of gardeners in Khayelitsha because of their independency, initiatives and hardworking. The project is well established and is capable of achieving greater yields, positive outcomes such as food security and income. Group members have made gains in fighting malnutrition, hunger and starvation amongst school children. Their main strength is the strong social capital (solidarity) amongst themselves, their dedication and the fact that they serve as an inspiration to other urban agricultural projects around Khayelitsha.

## 4.2 Esam Esakho isitiya ‘Yours and My Garden’: Site 3 on Figure 2

### 4.2.1 Establishment and membership

The project began in September 2000. It consists of nine women and two men. There is no joining fee but one has to be an integral part of the community in order to become a member. Members come from the Eastern Cape, particularly from the Transkei, with only one member from the Ciskei. They are residing at Macassar informal settlement and they didn't know each other before they formed a group. Macassar Development Forum (MDF) motivated people or volunteers to come together and start vegetable gardening at Impendulo Primary School.

### 4.2.2 Motivation

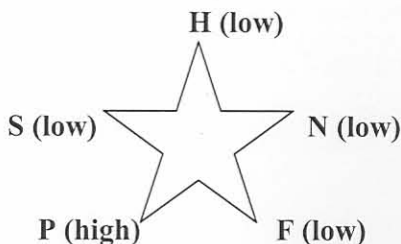
The main objective is to generate cash income and food for unemployed adults. As one respondent commented: *“There are no jobs and we are suffering due to money shortages. We want to garden and sell vegetables to the local people and get money.”* They also voluntarily give vegetables to the people infected with HIV/AIDS and TB at the clinic.

### 4.2.3 Living and strategies

- **Welfare grants** - dependent on pension money for their living
- **Off farm income** - Informal trading of second-hand clothes, selling traditional beer, baking and sewing are livelihood strategies of the project members
- **Farming income** – selling of vegetables

### 4.2.4 Livelihood outcomes and assets

- Food and money
- Increased well being





#### 4.2.3 Crop grown

Low levels of social capital are confirmed at this project because the project members are highly dependent on Abalimi Bezekhaya for support resulting in an unsustainable project that can collapse in future especially if Abalimi Bezekhaya were to withdraw support.

#### 4.2.5 Access to resources and natural capital

The project is situated on the grounds of Impendulo Primary School. The soil quality at the school is poor, requiring introduction of compost and manure. Water is obtained from the school tap. Currently they do not pay for water, the school is probably responsible for the payment of water. Watering of plots is done by hosepipe. Abalimi Bezekhaya also installs drip irrigation equipment. The use of drip irrigation instead of sprinkler reduces loss of water before it reaches the bed and moreover strong wind increase unnecessary loss of water. The group does not recycle greywater in the garden because they perceive soap water to be bad for plants.

#### 4.2.6 Support services

Abalimi Bezekhaya provide seedlings, irrigation equipment, and training courses. A three day course of Abalimi Bezekhaya covers the following subjects: garden design, trench bedding, soil preparation, compost making, seed sowing, seed transplanting, watering, vegetable care and maintenance and pest control. If Abalimi Bezekhaya were to collapse or withdraw support the project will also collapse because the members are highly dependent on Abalimi Bezekhaya (low social capital) and moreover gardening projects cannot be sustainable on their own without the introduction of income generating activities such as chicken farming, sewing, beadwork.

#### 4.2.7 Skills

The group possesses the following know-how: gardening, baking, sewing, knitting and beadwork.

#### 4.2.8 Crops grown

<i>Summer</i>	Spinach, Tomato, Green pepper, Beetroot, Carrots, Turnip, Parsley, Chinese
<i>4.2.1 Establishment</i>	Spinach, Egg-plant, Maize, Lettuce, Cabbage
<i>Winter</i>	Spinach, Chinese Spinach, Beetroot, Cabbage, Lettuce, Onion, Carrots

#### 4.2.9 Marketing strategies

They sell spinach to local people for R2.00 a bunch of 20 leaves. Sales occur on the project site with buyers coming to the project. This saves the producer transport costs to the market and also saves on storage costs as the produce is harvested when the consumer needs it.

Abalimi Bezekhaya assist with marketing to the Oude Moulén organic market in Observatory. Abalimi Bezekhaya puts it: *“Each member is getting about R100 per 100 m<sup>2</sup> after cost, in his or her pockets or on their tables. This is a lot of value for penniless people.”*

The project members also sell Chinese spinach to Chinese restaurants in towns. As one respondent commented: *“The people who work in offices and towns are working for us because they come and buy vegetables from our project.”* The income generated from vegetables is collectively saved into the project’s bank account.

#### 4.2.10 Problems experienced

Social capital is the major problem in the project. The members are highly dependent on Abalimi Bazekhaya for technical advice and inputs. They are unable to plan for themselves without the help from Abalimi Bezekhaya. Although they are skilled in terms of gardening, they achieve lower yields because of greater dependency (low social capital) on Abalimi Bezekhaya. Natural capital, such as limited supply of water, is critical according to the respondents. There is also low water pressure at the school because of usage of water by school children.

#### 4.2.11 Successes and failures

They voluntarily support people affected with HIV/AIDS and TB. The main drawback is their dependency on Abalimi Bezekhaya. They are unable to plan for themselves without the help from Abalimi Bezekhaya.

### 4.3 Quaker Peace Garden: Site 9 on Figure 2

#### 4.3.1 Establishment and membership

In 1991 the Quaker Peace Center NGO approached the United Dutch Reformed Church to request a portion of land on the church premises for vegetable gardening. An agreement was reached and over time the garden has grown to include much of the available land on the property, including most of the area surrounding the minister's mission.

Nokwanda started the project in 1991 with 113 members. Currently there are 73 members. Sylvia is in charge of the project. The membership fee is R10.00 and is collectively deposited in their bank account. Membership related income return is quite reasonable because of profitable farming activities. The group had a list of people who want to join the project and if one of their members retires because of old age or sickness they take number one on the list. Members didn't know each other before they joined the group. Most of the gardeners are coming from the Eastern Cape, particularly from the Transkei. The respondents speak isiXhosa and have some degree of farming experience. Some of the respondents have backyard gardens at their homes. Currently they are residing in Khayelitsha at sections A and E.

#### 4.3.2 Motivation

- Food and cash
- Social interaction
- Pleasure

#### 4.3.3 Living and strategies

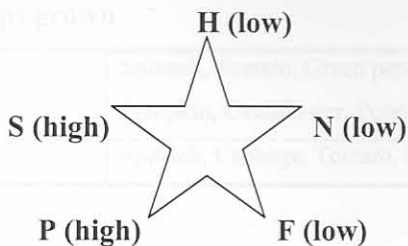
Most of respondents are old and dependent on welfare grants. They each receive R570.00 per month as a pension grant. They also sell their produce to local people at the cheaper price of R2.50 than the market price of R3.00 to R4.00. The people who buy vegetables from Epping or Phillippi market every Tuesday, those having stands or spaza shops sell vegetables and fruit at higher price of R3.00 to R4.00 than vegetables produced by community food gardeners. The crop, most commonly sold by community food gardeners is spinach for R2.50 a bunch. As one respondent commented: "*We get money from our hands.*" Sales occur on the project site with buyers coming to the project. This saves the producer transport costs to the



market and also saves on storage costs as the produce are harvested when the consumer is in need of them.

#### 4.3.4 Livelihood outcomes and assets

- Increased well- being
- Reduced vulnerability
- Community binding
- Sustainable use of natural resources



The main strength behind the success of this project is the strong social capital (social interaction and enjoyment of gardening activities) amongst the members. Good social capital in the form of co-operation and trust result in gaining of other forms of capital required as a means of living.

#### 4.3.5 Access to resources and natural capital

Quaker Peace Centre approached Dutch Reformed Church to use a portion of land for vegetable growing, including some of the area surrounding minister’s mission. An agreement was reached and the community residents were given land for vegetable cultivation. The soil is very sandy. Respondents are using underground water for watering their vegetables. Water is obtained from a borehole, constructed by Quaker Peace Center at the cost of R17 500. An electric pump is used to pump water from the borehole. The Quaker Peace Centre pays for the electricity. All the members pay R5.50 each per month to cover the cost of water. There is also a municipal water connection which supplies water to the minister’s house and is sometimes used by gardeners.

#### 4.3.6 Support services

Seedlings are obtained from the Quaker Peace Center on a seasonal basis, depending on the size of the garden. The respondents pay R2.50 for 10 seedlings. At the local shops the price is R1.50 for 30g of seeds and at Shoprite or Pick’n Pay the price of seeds is R10 a packet. They

also pay R5.50 for a plastic bag of manure at the Quaker Peace Centre, which also supplies them with a bakkie of manure, approximately R170 a load. There is also a small nursery where gardeners can obtain seeds and seedlings as well as manure. The nursery charges very little or sometimes nothing when gardeners have no money.

#### 4.3.7 Skills

The group members are old and possess gardening skills.

#### 4.3.8 Crops grown

<i>Summer</i>	Spinach, Tomato, Green pepper, Egg-plant, Beetroot, Maize , Beans, Carrots, Pumpkin, Cauliflower, Potatoes
<i>Winter</i>	Spinach, Cabbage, Tomato, Lettuce, Onion

#### 4.3.9 Problems experienced

This project, unlike the other case studies profiled in this report, is not encountering major problems because of social cohesion amongst the members.

#### 4.3.10 Successes and failures

The project is going very well because of strong social capital (solidarity, social interaction and enjoyment of gardening). They achieve greater yields and positive outcomes such as food security and income because of their commitment. These pensioners supplement their pension money with gardening.

#### 4.4 SCAGA (Siyazama Community Allotment Garden): Site 8 on Figure 2

##### 4.4.1 Establishment and membership

Siyazama Community Allotment Garden started in 1997 by Star Black and Cristina Kaba. The project is located on powerline servitude land at Macassar, Section 39, Village 4, (Erf no. 39236). Madlami puts it: *“There was a fight between the community and Lingulethu West Transitional Council but finally they agreed to give us the land but on condition that we won’t cultivate close to electric poles and we feel secure on land because there is no other alternative use of it.”*

SCAGA consisted of 30 group members first by the time it was started of whom two were men. However, conflict erupted (low social capital) between group members and resulted in change in membership composition. The main cause of conflict was corruption between the members with regard to misappropriation of funds, as the result they ended up taking garden tools and sewing machines to their houses. As one respondent commented: *“One man was coming on the project site during Saturdays to sell vegetables and take the money for himself to buy beers.”* The other reason for a change in membership composition is that people join the project with the hope that they will be employed and get a salary. Individual gardeners in SCAGA are involved in community food gardening for a while and then move to something else. The possible reasons for individuals leaving are high expectations from the gardeners, hard work from trench digging, low yields and finding a job. As one respondent said: *“Jealous amongst us results into people leaving the project”*.

During surveys nine (second group) members were interviewed but at the beginning of 2002 another 30 (third group) members joined the project. All the members are not residing in the area surrounding the project site. They are residing in Harare and Town 2. Those who are staying near the project do not want to join because they claim that they started it and they experienced a lot of problems. Everybody is welcome to join the project and the membership fee is R50 collectively deposited into their savings account. Membership related income return is not reasonable because of lower yields.



#### 4.4.2 Motivation

- Supplement income and to access food
- Selling vegetables

Different motivations exist between the members, with some members joining SCAGA as a means of access to employment and to get salaries, while others are actively participating to access food and others are just followers, expecting that anything might happen.

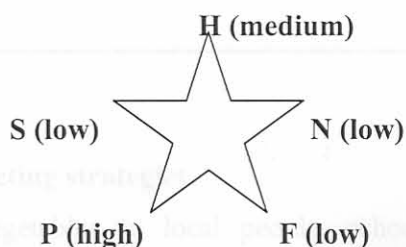
At SCAGA there is diversity among the members of the group in both their level of education and their expectations from the project. The educated tend to be dominant and have a final say in decision making regarding saving of money and managerial tasks such as division of labour. The educated members' responsibilities are record keeping, taking minutes of the meetings and banking and are less interested in practical activities of gardening such as weeding, irrigating, planting, etc.

#### 4.4.3 Living and strategies

- **Welfare grants** - dependent on pension money for their living
- **Off farm income** - Informal trading of secondhand clothes, remittances, selling traditional beer, baking and sewing
- **Farming income** – selling of vegetables

#### 4.4.4 Livelihood outcomes and assets

- Food security and income
- Sustainable use of natural resources



At Siyazama Community Allotment Garden there is low level of social capital because of conflicts and unrealistic expectations from the project and this can lead to the collapse of the project.

#### 4.4.5 Access to resources and natural capital

The Siyazama Community Allotment Garden is located on power-line servitude land at Macassar informal settlement. Lingulethu West Transitional Council reached an agreement with the community residents to use land for gardening but there was no formal lease agreement between the parties involved. The soil at SGAGA is very sandy requiring soil improvers. Watering of plots is done by sprinklers and hosepipes. Abalimi Bezekhaya also installs drip irrigation equipment. The use of drip irrigation instead of sprinklers reduces loss of water before it reaches the bed and moreover strong wind increases the loss of water. Abalimi installed a well point to supplement municipal water. The well point at SCAGA is driven by an electric pump.

#### 4.4.6 Support services

Abalimi Bezekhaya supplies gardeners with seedlings, manure and bone meal. The gardeners receive training from Abalimi Bezekhaya. A three day course of Abalimi Bezekhaya covers the following subjects: garden design, trench bedding, soil preparation, compost making, seed sowing, seed transplanting, watering, vegetable care and maintenance and pest control. SCAGA could collapse without the support of Abalimi Bezekhaya because of low social capital and absence of income generating activities.

#### 4.4.7 Crops grown

<i>Summer</i>	Spinach, Cabbage, Lettuce, Tomato, Egg-plant, Green pepper, Beans, Onion, Potatoes, Beetroot, Carrots, Turnip, Pumpkin, Maize
<i>Winter</i>	Spinach, Tomato, Turnip, Cabbage, Lettuce, Potatoes, Onion

#### 4.4.8 Marketing strategies

They sell vegetables to local people, schoolteachers and Rastafarians. In contrast to Kleynhans and Myburgh (1992) who said that marketing of agricultural produce poses no problem, they said marketing opportunities in Khayelitsha and Driftsands are unlimited. Abalimi Bezekhaya (2001) also put it: *“there is no lack of market for high quality vegetables.”* Evidence from the surveys shows that marketing is a problem for the gardeners. The respondents mentioned that they give their produce to the community members free of

charge especially if the communities and vegetarians are not buying from them. As one respondent commented: “Last season we had a surplus of tomatoes and we ended up giving to the community for free because there was no place to sell and it was rotten.” Due to the fact that marketing is a problem Abalimi Bezekhaya assist them with transport and take vegetables to Constantia for marketing day. They also assist with the marketing of vegetables to the Oude Molen organic market in Observatory. The most common crops sold are spinach and green peppers. Sales also occur on the project site with buyers coming to the project. This saves the producer transport costs to the market and also saves on storage costs as the produce are harvested when the consumer is in need of them.

#### 4.4.9 Problems experienced

As already highlighted, group conflict is the major problem. These problems might be caused by unnecessary expectations of the members, corruption and division of labour.

#### 4.4.10 Successes and failures

The main strong potential of the project is that it managed to secure funds from donors.

Abalimi Bezekhaya had invested a lot of funds in SCAGA in order to be sustainable, but today the project is still unsustainable, draining or mining funds from Abalimi Bezekhaya.

The project is not capable of achieving greater yields because people join the project as a means of access to employment and to get salaries and as a result they come and leave the project because of high expectations. Jealousy amongst the members and working in groups weakened the success of the project because some people are lazy. Fieldwork confirmed that there is a strong preference for gardening on an individual basis.

The membership fee is R25 and is deposited into their savings account. Membership related income return is not reasonable because of unprofitable farming activities.

#### 4.5.2 Motivation

- Income generation
- Access food
- Job creation

Francie put it: “I come from Eastern Cape in 1973 to search for a job in Cape Town. I sat and waited for a job but there was nothing coming and I began growing vegetables in the back. I inspired other males to come and join and the same.”



## 4.5 Eden Garden: Site 2 on Figure 2

### 4.5.1 Establishment and membership

The group was initiated in 1998 by France Mxokozeli (center) in plate 2. The project was formed by 20 men who had individual plots in the bush outside Khayelitsha and they decided to form a group.



**Plate 2: Eden Garden**

All the members are men living at Site B in sections R and L informal settlements. Although they are staying at Site B, the place of origin is Eastern Cape particularly from the Transkei and Ciskei. The members are mostly young to middle aged. They intend including women but the project is located in the bush. Mbhele commented: *“The women have a fear of rape in the bush”*. The membership fee is R25 and is deposited into their savings account. Membership related income return is not reasonable because of unprofitable farming activities.

### 4.5.2 Motivation

- Income generation
- Access food
- Job creation

France put it: *“I came from Eastern Cape in 1975 to search for a job in Cape Town. I sat and waited for a job but there was nothing coming and I began growing vegetables in the bush. I inspired other males to come and join and they came.”*

#### 4.5.6 Support services

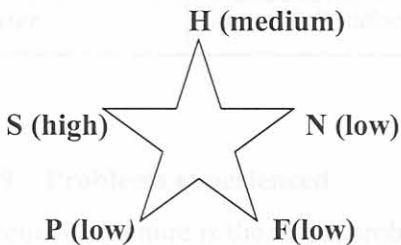
As one respondent commented: “There is no food in our houses so we want to feed our children.” As another respondent commented: “Pick n’ Pay is selling plastics not food so we want to produce fresh vegetables and not buy from expensive Pick n’ Pay. Our dream is to become farmers not gardeners so that we can market our produce and also create jobs for ourselves.”

#### 4.5.3 Living and strategies

They are dependent on part- time jobs ranging from construction work, painting, brick making, fishing and metal work and earning R300 to R400 a month. Some of the respondents are dependent on disability grant of R570 per month.

#### 4.5.4 Livelihood outcomes and assets

- Improved food security
- More income
- Increased well-being



In this project social capital is high, but the problem is low physical and natural capital. Insecure tenure and scarcity of water are the major drawbacks limiting the success of the project.

#### 4.5.5 Access to resources and natural capital

As already mentioned the project is located outside Khayelitsha in the bush on unauthorized land. Water is obtained from the dam constructed by the members. Watering of plots is done by hand using buckets.

#### 4.5.11 Successes and failures

The main drawback towards the success of the project is the brevity of tenure. The members lack motivation as they have a fear of being evicted. The land belongs to the

**4.5.6 Support services**

Abalimi Bezekhaya normally supports women growers but as from 1999 they have provided the Eden group with inputs, training and market support. The training covers the following subjects: garden design, trench bedding, soil preparation, compost making, seed sowing, seed transplanting, watering, and vegetable care. If Abalimi Bezekhaya could collapse or withdraws from providing support the project will fall down because gardening project cannot be sustainable on its own without the introduction of income generating activities such as chicken farming and woodwork.

**4.5.7 Skills**

The group members possess the following know-how: fishing, brick making, painting, candle making, washing basin and steel buckets making.

**4.5.8 Crops grown**

<i>Summer</i>	Spinach, Cabbage, Lettuce, Egg-plant, Green pepper, Tomato, Pumpkin, Potatoes, Maize
<i>Winter</i>	Spinach, Potatoes

**4.5.9 Problems experienced**

Insecurity of tenure is the major problem for these gardeners. The land belongs to the Council of Tygerberg. They need more land for farming livestock and gardening. Insufficient supply of water is also a major problem mentioned by the respondents.

**4.5.10 Marketing strategies**

They sell vegetables to the local people. If they sell at the project site a bunch of spinach is R1.50; outside the project site the price is R2. Abalimi Bezekhaya are also helping with marketing to the Oude Moulén organic market in Observatory. The most common crop sold is spinach.

**4.5.11 Successes and failures**

The main drawback towards the success of the project is the insecurity of tenure. The members lack motivation as they have a fear of being evicted. The land belongs to the



Council and there is no formal agreement between the two parties.

#### 4.6 Nomsa Maphongwane: Site 4 on Figure 2

##### 4.6.1 Establishment and membership

The project began in May 2001 at the initiation of Cristina Kaba. The project is situated on the grounds of Nomsa Maphongwane Primary School in Khayelitsha and is maintained by five men and two women. Only interested and motivated people are allowed to be members. To become a member each individual pays a R100 joining fee, and after three years they pay another R100. Membership fee in relation to income return is quite reasonable because of profitable farming activities. Before forming a group they didn't know one another. All the members originated from the Eastern Cape, particularly from the Transkei and Ciskei. Currently, they are residing at Makhaya and Macassar informal settlement.

##### 4.6.2 Motivation

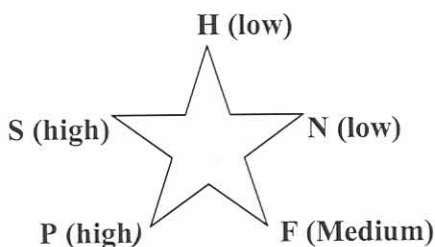
- To generate food and cash
- They also voluntarily support people affected with HIV/AIDS with vegetables

##### 4.6.3 Living and strategies

The members are engaged in informal activities such as gardening, knitting, informal trading of meat, domestic work and they receive remittances.

##### 4.6.4 Livelihood outcomes and assets

- More income and food
- Sustaining natural resources



Social capital is high and the project is successful because of high returns from the project.

**4.6.5 Access to resources and natural capital**

The project is situated on the grounds of Nomsa Maphongwane Primary School. The soil is very sandy. Water is obtained from the school tap and watering of plots is done by hosepipe.

**4.6.6 Support services**

Abalimi Bezekhaya is the main source of training, expertise and inputs for the garden ranging from manure and seedlings to marketing strategies. The project is sustainable and can survive without the support from Abalimi Bezekhaya.

**4.6.7 Crops grown**

<i>Summer</i>	Spinach, Cabbage, Lettuce, Egg-plant, Green pepper, Tomato, Pumpkin, Potatoes, Maize
<i>Winter</i>	Spinach, Potatoes

**4.6.8 Marketing strategies**

They sell vegetables to local people and teachers at school and they voluntarily support HIV/AIDS patients with vegetable donations. Sales occur on the project site with buyers coming to the project. This saves the producer transport costs to the market and also saves on storage costs as the produce are harvested when the consumer is in need of them.

**4.6.9 Problems experienced**

Insecure tenure combined with limited supply of water are the major problems facing gardeners at Nomsa Maphongwana. As one respondent commented: *“Our project is allocated at school and we cannot water our garden after school hours because school gates are locked. The principal complain when we use too much water as a result we use very little water when watering plants.”*

#### 4.6.10 Successes and failures

The group got the permission from the school principal to expand on unused portion of land because of the members determination. This is the most successful project and is capable of achieving greater yields. It was used by Social Development Minister, Zola Skweyiya in a campaign launched to address malnutrition (*Vukani News, 2002a: 3*). The other contributing factor towards the success of the project is that one field worker of Abalimi Bezekhaya favours the group and they get preference when inputs are supplied to the community food gardens or urban agriculture projects around Khayelitsha.

### 4.7 Nondyebo Community Educare: Site 7 on Figure 2

#### 4.7.1 Establishment and membership

This garden project began in 2000 by the Department of Health at Luhlaza Primary School. All the members of Nondyebo are middle to old aged women and they are pensioners. The group began with three members and later more women joined the project bringing to the total of ten members. The joining fee is R50 deposited into their bank account. Membership related income return is not reasonable because of unprofitable farming activities. The members are coming from the Transkei and Ciskei. Currently, they are residing in Khayelitsha at sections A, B and C and they didn't know each other beforehand but were organized by Department of Health.

#### 4.7.2 Motivation

- To access food and generate income
- To help other community members who are unable to meet basic needs because of their being chronically disabled or sick

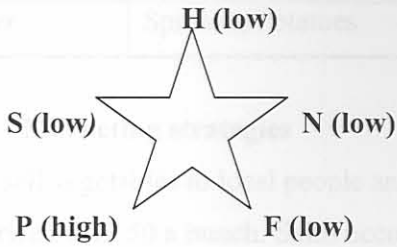
#### 4.7.3 Living and strategies

Most of the group members are pensioners and are getting a grant of R570 a month, others are dependent on remittances, one member is a domestic worker, one member is getting grant for a child and one is dependent on informal trading of sweets and chips.



#### 4.7.4 Livelihood outcomes and assets

- Increased well-being
- Reduced vulnerability



They are also dependent on NGOs for their support and if the NGOs withdraw, the project will collapse.

#### 4.7.5 Access to resources and natural capital

The project is located on the grounds of Luhlaza Primary School. They obtained the land from the school principal for vegetable growing. Water is also obtained from the school tap and the school is responsible for the payment of the water account.

#### 4.7.6 Support services

Abalimi Bezekhaya provides seedlings, irrigation equipment, and a training course. A three day course of Abalimi Bezekhaya covers the following subjects: garden design, trench bedding, soil preparation, compost making, seed sowing, seed transplanting, watering, vegetable care and maintenance and pest control. The project can collapse if Abalimi Bezekhay should withdraw support because they achieve lower yields and there are no income generating activities such as sewing, beadwork.

#### 4.7.7 Skills

The group has the following skills, gardening, sewing, knitting, beadwork and domestic work.

Table 3: Comparison of seven case studies in line with sustainable livelihood framework

**4.7.8 Crops grown**

<b>Summer</b>	Spinach, Beetroot, Cabbage, Potatoes, Pumpkins, Maize, Beans, Carrots
<b>Winter</b>	Spinach, Potatoes

**4.7.9 Marketing strategies**

They sell vegetables to local people and teachers at school. The dominant crop sold is spinach at a price of R2.50 a bunch. Sales occur at the project site to the local people.

**4.7.10 Problems experienced**

The respondents mentioned insufficient land as a major problem. They also complained about the poor soil quality. The respondents also mentioned that livestock tramples into the garden and destroys their crops because of the broken fence at school.

**4.7.11 Successes and failures**

They produce sufficient amounts of vegetables for household consumption and for selling. They are capable of achieving greater yields because of their determination and enjoyment of gardening.

Table 3: Comparison of seven case studies in line with sustainable livelihood framework

Aspects	Women's Uunity	Esam Esakho Isitiya	Quaker Peace Garden	SCAGA	Eden	Nomsa Maphongwane	Nondyebo Educare.
Location	Church & School	School	Dutch Reformed Church	Eskom power line (servitude land)	State idle land	School	School
Expected livelihood outcomes	Improved food security Income generation Reduced vulnerability	Improved food security Income generation Increased well-being	Secure food Increased well-being	Subsistence Generate income	Secure food Generate income Reduced vulnerability	Access food Income generation	Access food Increased well-being
Main constraints	Natural capital. Social capital Human capital	Natural capital	Natural capital Garden pest	Institutional constraints Social capital	Natural capital	Natural capital	Natural capital Physical capital
Strength	Solidarity Dedication Hardworking Independency	Dedicated	Enjoy gardening Sufficient time for gardening. Teamwork	Secure funds from donors Serve as an inspiration for people to start improving their own lives Show house	Dedicated	Hardworking Favored by Abalimi field worker Committed and dedicated	Enjoy
Vulnerability context	Casual employment / Insecure jobs	Unprofitable farming activities		Casual employment replaces agricultural work Resource sink	Earn very little from casual employment	Casual employment	Members are very old pensioners, hard work from trench digging



#### 4.8 Assessment of case studies

Different motives exist for each case study, for example Women's Unity's main motive of starting a vegetable garden is to generate food and money. This project is sustainable and is capable of achieving greater yields because of strong social capital (solidarity) and introduction of other income generating activities such as community services (crèche) and feeding scheme. They are capable of securing funding from donors. At SCAGA is a low level of social capital because of conflicts and unrealistic expectations from the project and this can lead to the collapse of the project. Good social capital is crucial in gaining access to other forms of capital such as financial, human, natural and physical capital. Women's Unity garden project is sustainable because of good social capital. Low levels of social capital are also confirmed at Esam Esakho Isitiya, where the project members are highly dependent on Abalimi Bezekhaya, therefore being unsustainable and can lead to collapse of the project.

From the case studies it can be deduced that projects with high levels of social capital are most likely to be successful. Financial capital is low for the members because of high levels of hire purchase and indebtedness and most of them are pensioners and pensions provide the economic underpinning of many households.

Several papers on urban agriculture have referred to insecurity of tenure (natural capital) as a major drawback for the development of sustainable urban agriculture for the benefit of the urban poor. Evidence from the fieldwork shows that natural capital, such as insufficient land and insecure tenure combined with limited supply of water, is the main problem common to all project schemes in and around Khayelitsha.

Marketing poses problems for community food gardens in Khayelitsha possibly because of racial preferences. Abalimi Bezekhaya assists community food gardens with marketing of organic vegetables to the Oude Moulén Organic Market in Observatory and Constantia. Women's Unity is the only community project that is being not assisted by Abalimi Bezekhaya regarding marketing.

Although different motives exist between the case studies, it can be concluded that the primary motive for the people of Khayelitsha to be engaged in vegetable production is the

desire to access food, to get money from selling vegetables. Access to food and therefore food security for participants is clearly the major issue.

#### 4.9 Analysis of assets status

The livelihoods approach focuses on what people have rather than what they lack and helps to identify opportunities for policy intervention and facilitation of sustainable development. People have access to different kinds of assets such as natural, physical, social, financial and human capital. The extent to which people have access to these assets and the ways in which these are combined for living will be explored next.

##### 4.9.1 Physical capital

This is the basic infrastructure needed to support the household for livelihood. It includes housing, transport, water, electricity and sanitation which are often placed highest on urban dwellers list of priorities. The quality of housing in the informal settlement of Macassar is poor being made with galvanized iron and which are flooded in winter. These units are typically in a bad state of repair. Most of the households have access to electricity by using a coupon system. The cost varies depending on the usage. Macassar resident's housing units are not in good condition at all. It is typical of an informal settlement. Litha Park and Khayelitsha houses are in good condition and in good state.

Other dimensions of physical capital are also important in urban areas, for example transport and roads, market for supply of inputs and tools and for informal trade. Roads are in a good condition in the formal and informal settlements.

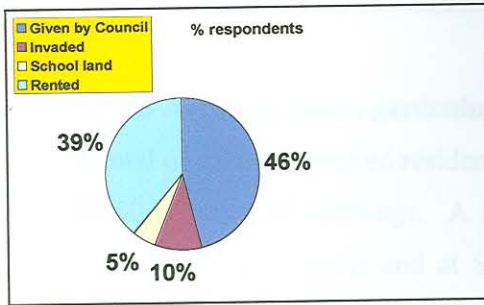
##### 4.9.2 Natural capital

Urban areas vary in the degree to which has access to natural capital in the form of agricultural production.



#### 4.9.2.1 Access to land

Figure 5.



The majority of the households in Macassar informal settlement obtained land from the government free of charge. The plots are generally small and can be up to 100m<sup>2</sup> to 250 m<sup>2</sup>. A total of 46 % got the land from the local council for free after Basonto has removed them from Greenpoint to Maccassar informal

settlement. Secure access to land is rarely available, land users are often evicted by government officials from their plots when the land is developed, thereby giving up agricultural practices (May, Atwood, Dominik, Kaye, Newton, Rogerson & Witt 1993).

A total of 39% of the sampled residences are renting the land to the council and those residing at Litha Park are paying their rent to the NBS bank. A total of 10% invaded the land and 5% got the permission from a school to grow vegetables.

Ownership of land is problematic, since the title deed is the exception rather than the rule for most urban cultivators (Van der Waal and Korentajer 1994) cited by (De Necker, Uys & Van der Merwe 1996: p6).

#### 4.9.2.2 Access to water

All gardeners had access to water from the tap in their housing compounds. In addition, most of them (86%) had a hosepipe as a means of watering. A total of 10% used buckets as a means of watering, 2% had sprinklers located on their properties and 2% make use of watering-cans. Mamushe commented: *"I like watering-can because it waters gentle."*

A total of 78% do not make use of waste-water in their gardens, while 22% were making use of grey-water from their kitchens and bathrooms. The main reason given by the gardeners for not using grey-water is that they perceive waste water as dirty, unhealthy, impure and dangerous to plants.

A total of 78% indicated that they do not pay for water used for domestic purposes as well as for watering their gardens. A total of 22% said they are paying for water used for domestic and irrigation purposes. The respondents paid a flat rate ranging from R20 to R150 a month.



They are paying this flat rate so as to avoid stoppage of their water supply by the council. Only 6% of the respondents measure the amount of water used, the rest (94%) do not measure water used during watering. Those measures add 25 l of water per day.

#### 4.9.2.3 Access to seeds, gardening tools and soil improvers

A total of 28% of sampled residents obtained seedlings and seeds from Abalimi Bezekhaya at R2.50 a bunch of seedlings. A total of 24% obtained seeds from local shops at a cost of R1.50 for 30g of seeds and at Shoprite or Pick'n Pay for R10 a packet. A total of 18% obtained their seedlings from friends and relatives free of charge, another 18% from their previous harvest, 10% from rural areas and 2% from neighbours.

Most gardeners have their own tools or gardening equipments which they bought from shops or borrowed from neighbours and friends. The tools are affordable and they know how to use them. The most prominent source of soil improvers is Abalimi bezekhaya. Other gardeners got their soil improvers from friends and relatives who have livestock.

#### 4.9.4 Social capital

It is traditionally viewed as patterns of horizontal social networks and solidarity relationships, i.e. between household, group or community members. Here, however, the interpretation is broadened to include "vertical links between people and groups unequally endowed with power and resources" (Shankland, 1999: p.14). It refers to the social relationships in which individuals and communities are involved, including networks, membership of groups and levels of trust and reciprocity. These are important ways to gain access to other forms of capital and provide means of controlling and defending it. Social structures in urban areas rely on forms of common interest among neighbours rather than structured through kinship. The level of social service provision is rather low. State-provided services are lacking and there has been limited growth of local civil society organisations, leading to the conclusion that there are low levels of social capital within the community.

As an example, SCAGA garden consisted of 30 (first group) members at the time it was started of whom two were men. However, conflict erupted between group members and resulted in a change in membership composition. The main cause of conflict was corruption between the members with regard to misappropriation of funds, as the result they ended up taking garden tools and sewing machines to their houses. As one respondent said: "*Jealous*

amongst us result into people leaving the project.” Levels of social capital are relatively low, as confirmed by field-work that showed that there is strong a preference among gardeners for individual plots rather than shared activities because of lack of mutual trust and co-operation.

#### 4.9.4 Financial capital

It is critical in urban areas where cash transactions are used to access food, housing, water, energy, transport and education. Most of the surveyed respondents are old pensioners, obtaining a grant of R570 a month. Income is spent on food, clothing, shelter, education, transport and some on liquor. Health care is free for children and older people.

##### 4.9.4.1 Sources of income

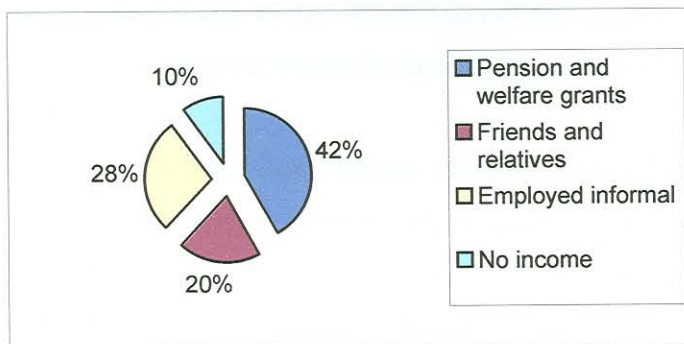


Figure 6.

Most of the respondents are dependent on welfare grants, pensions or disability grants of R570 on a monthly basis. A total of 42% of the respondents mentioned their main source of income as pension and welfare grants. A total of 28 % find most of their employment opportunities in the informal sector involving construction work, painting, wood-work, grinding, restaurants, hotels, domestic work, sewing and beadwork. Most of these informal jobs offer very little income and are insecure (vulnerability context). Some respondents are involved in informal trading of sweets, chips, sheep’s head and trotters and liquor. A total of 20% of the sampled residents are dependent on remittances and 10 % of the respondents do not have any means of income.

If the household’s level of income is lower than the minimum required income then the household is food insecure. It has been established that an urban South African household of five members requires a minimum of R850 per month to meet the household requirements (Human Science Research Council, 1993). The poverty limit for a rural household was found



to be R750 per month (*Agrifutura*, 1997/98). Of the gardeners interviewed, it was found that the majority of gardeners live below the poverty line (income less than R 800 per month), while the minority are on poverty line (R800 to R1 200 per month). It was difficult to get the exact amount of income earned by the respondents because income is the sensitive issue and moreover most of the respondents were employed informally, others self-employed who received fluctuating amounts of income per month, while others were pensioners obtaining R570 per month.

#### 4.9.5 Human capital (skill- based)

Refers to added value due to upgrading of skills acquired through training and education. It refers to human capacity in terms of education, skills and health status to undertake activities. A total of 26% of the respondents educational level is between standards 1 and 5, 30% fall between standard 6 and 10 and 4% pre-school and another 4% had never been to school. In Khayelitsha, women predominate in the less educated groups.

One of the most significant factors affecting success in gaining urban employment is education and skill levels. Those who have qualifications and skills to work, combined with good health are at an advantage. The majority of respondents do not have much schooling and as a result are employed in informal sector which offers very little and insecure. Health care is free for children and older people and clinics are not posing problems as they are already available in Khayelitsha.

#### 4.10 Transforming structures and processes

Institutions, organizations, policies and legislations shape the livelihoods of urban poor. Some examples of policy areas which affect people's access to assets and opportunities are:

- Environmental policies and land tenure security (natural capital)
- Policies on provision of urban infrastructure – housing, electricity and sanitation (physical capital)
- Employment generation, credit provision, savings and training (financial and human capital)



- Social security, education and health provision and support for the extreme poor (social and human capital)

The extent to which community food gardeners and households can influence the policy process is very limited at present in Khayelitsha. Community gardeners and the surveyed households focus on meeting the immediate needs, such as basic services, rather than lobbying for policy transformation. The major issue is the need for improved integration of different stakeholders into the planning processes and to promote intersectoral planning which recognizes links between land access, cultivation and nutrition, water and sanitation, and health. (Policies on urban and peri-urban agriculture will be discussed in detail in Chapter 6)

City Council does not allocate suitable land for agricultural purposes instead the land is utilised for industrial, commercial and housing purposes. Rather than allocating land to permanent use of cultivation activities, city councils tend to favour urban agriculture as a temporary use of vacant public and private land until the land is earmarked and developed for a different, usually a higher status, purpose.

There are a number of organizations in and around Cape Town that are involved in supporting urban agriculture initiatives such as Food Gardens Foundations, Tsoga (wake up) Environmental Resource Centre, Quaker Peace Centre and Abalimi Bezekhaya. These NGOs play a vital role in supporting urban food growers through the provision of training, inputs and access to resources. They are probably in the best position to facilitate the growth and promotion of urban agriculture in this city, but to do so they require financial support and staff. The other groups that contribute to the development and facilitation of urban agriculture in Cape Town include Agricultural Research Council, Centre for Integrated Rural Development and Programme for Land and Agrarian Studies.

The South African Council of Churches (SACC) has promised to set up gardening projects in Khayelitsha. The SACC has identified that many people in Khayelitsha are not working, are hungry and desperate to do anything to help themselves. The SACC is dedicated to move forward with plans to start gardening projects (*Vukani News 2002b: p.15*).

## Chapter 5

## Household Surveys and Livelihood Strategies

## 5.1 Introduction

This section focuses on the livelihood strategies of home food gardeners and urban agricultural activities at household level. It is based on transect walks and interviews conducted in Khayelitsha, section F (site 12), Macassar informal settlement (site 11) Kuyasa section (site 10) and Ilitha Park (site 5) (See Figure 2). The survey was carried out in the form of a transect walk, taking a cross-section of an area and visiting every tenth house. If the head of a household was present and willing to answer questions the interview was conducted. If nobody was present or if unwilling to be interviewed, the next house on the transect with somebody at home preferably the head of the household was selected. The transect walk was insightful as it gave an idea of the physical layout of the squatter camp and the way people organise their small plots.

The people of Khayelitsha use many strategies in order to make a living and they probably just want to improve their current standard of living like all of us. Surveyed respondents were interviewed with regard to the principal means they use for survival and for a better life. There are several strategies employed by the surveyed community residents such as resource-based activities and non-resource based activities. These strategies will be studied in line with sustainable livelihood framework and discussed in this chapter.

## 5.2 Resource-based activities

## 5.2.1 Gardening

Gardening is part of a survival strategy for low-income groups especially women. A total of 92% of the respondents interviewed are engaged in vegetable production. *“Backyard garden is for subsistence, to access food (Manyira at Litha park). It also helps with expenditure substitution because you can sell spinach and buy paraffin”*. Most of the respondents are old women and they are dependent on pension money for survival and 36% supplement their pensions with gardening. They are getting R570 pension money monthly, which is also their start-up capital for gardening. A respondent from Kuyasa section commented that: *“Back*



*yard plots are small and they help us with food, they do not help us to solve major problems such as buying of furniture, renovating our houses or burial expenses”.*



**Plate 3: Backyard or home garden**

### **5.3 Non-resource-based activities**

#### **5.3.1 Informal trading**

A total of 18.7% were involved in informal trading of meat, sweets, chips, peanuts and cigarettes and they supplement their income by gardening. One respondent is selling African beer in his compound in order to earn money for a living. Another is selling second-hand clothes. She goes to relatives and friends to ask for second-hand clothes. Selling sheep's heads and trotters is another livelihood strategy of the respondents in Khayelitsha. Most people are engaged in unprotected wage labour jobs and self-employment activities such as sewing, knitting, beadwork, selling beers, selling chips that offer little job security and legal protection. Little job security and legal protection are part of the vulnerability context on the sustainable livelihood framework (See Figure 1).

#### **5.3.2 Voluntary work**

Some respondents are volunteers, hoping to get a job in the future. Magxaka at Macassar is sweeping the streets as a volunteer and Mamfene at Site B is gardening at schools with the help of two women and they have a soup kitchen at the school for the school children, hoping something will come up in future. Voluntarily assistance is also part of vulnerability context on the sustainable livelihood framework (See Figure 1).



### 5.3.3 Family

A total of 16.1% of the surveyed respondents were supported by their childrens, husbands and relatives in order to make a living and prosperous life and supplementing their income with gardening. As one respondent commented: *“I go to my relatives and friends to ask for money ranging from R50 to R100 in order to buy inputs for my garden and get little groceries (Magxaka from Macassar)”*.

### 5.3.4 Informal sector

Of those employed, 12% are employed in the informal sector. As one respondent commented: *“These jobs are insecure, for an example my company is not in the position to pay its debts, legal procedures are being taken by the lawyers and is going to close down”*. Insecurity of jobs is the part of the vulnerability context on the sustainable livelihood framework (See Figure1).

Most of the respondents are engaged in ‘piece jobs’. These are short-term work like working as a domestic worker and baby-sitting. Women’s income generating activities are concentrated on baby-sitting, sales of street food, sewing, knitting and beadwork.

### 5.3.5 Societies

Only 8 % of the respondents are the members of a burial society where they save money monthly and share it later. Tom from Site B put it, *“I pay R50 for Masiphilisane and R50 for Intaka every month. The money saved will also cover for my father in Transkei”*. Membership on these society results in securing capital especially when there is a good relationship amongst them. Although some respondents join societies very few in the sample did. The majority of the respondents (92%) do not join societies. As one respondent commented: *“I don’t want to join societies because people cheat and there are lot of meetings, when it becomes your turn to get money, they just disband the whole thing”*. Mamushe commented: *“I do not join the societies because the pension money is for meeting the basic needs”*.

## Results and Discussion

**Table 4: Demographic characteristics of the sample household**

<b>N =50</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Interviews</b>		
Female	28	56
Male	22	44
<b>Gender</b>		
Head of the household (male)	20	40
Head of the household (female)	22	44
Spouse of the head	8	16
<b>Age</b>		
Age over 40	36	76.6
Age under 40	11	23.4
<b>Martial Status</b>		
Single	17	34
Married	30	60
Widowed	3	6
<b>Education Level</b>		
Pre-school	2	4
Std 1-5	31	62
Std 6 -10	15	30
None	2	4
<b>Family Size</b>		
Family size less than 5	30	60
Family more than 5	20	40

Only 47 respondents gave their ages, which varied between 30 and 65, and the average age was 50 years. Women were frequently more involved in gardening than men. Nevertheless some men are actively involved in gardening, particularly older men who garden to access food and for pleasure. Tinker (1994) and Maxwell and Zziwa (1993) show that the majority

of urban farmers in sub-Saharan Africa are women. In Kenya 63% of the urban cultivators are women (Lee- Smith, Manundu, Lamba, Gathuru Kuria, 1987; Freeman, 1991).

**Table 5: Employment status of the gardeners**

Status	Frequency	%
Farming	0	0
Pensioner	0	0
Housewife	5	10
Business	1	2
Employed (informal)	6	12
No occupation	38	76
<b>Total</b>	<b>50</b>	<b>100</b>

Urban agriculture is associated with the lack of formal sector employment. A total of 76% were unemployed and 12% were employed informally. The informal sector has the advantage of flexibility but it is insecure. A total of 10% of surveyed respondents were housewives, dependent on their working husbands as sources of income, and 2% were business people.

**Table 6: Origin of the respondents**

Birthplace	Frequency	%
Transkei	32	64
Ciskei	15	30
Other	3	6
<b>Total</b>	<b>50</b>	<b>100</b>

Most of the respondents come from the Eastern Cape, particularly from the Transkei 64% and 30% from the Ciskei and 6% from areas such Beaufort West and others were born and grew up in Cape Town. People migrate from rural areas to towns and cities in search of jobs but they are unable to find a jobs so they revert or convert into agriculture in order to access food because it is accessible to them.



**Table 7: Reasons for migrating to Cape Town**

Reason	Frequency	%
Search for job	30	60
Employed	13	26
Follow husband	5	10
School	1	2
Sickness	1	2
<b>Total</b>	<b>50</b>	<b>100</b>

A total of 64 % of the respondents migrated from the Transkei and 30% from the Ciskei. The main reason for migrating from rural areas was to search for a job (60%) and others were employed particularly in the informal sector (26%). A total of 10% were women who followed their husbands in cities and towns. Only 2% of the respondents migrated to Cape Town in order to continue their studies and the other 2% were in search of good doctors because of sickness.

**Table 8: Livelihood**

Activity	Frequency	%	Second activity	%	Third activity	%
Gardening	46	92	0	0	0	0
Employed informally	1	2	14	33.3	0	0
Pensioner	2	4	17	40.5	2	20
Dependent	1	2	7	16.6	1	10
Informal trading	0	0	3	7.2	6	60
Other	0	0	1	2.4	1	10
<b>Total</b>	<b>50</b>	<b>100</b>	<b>42</b>	<b>100</b>	<b>10</b>	<b>100</b>

Of the 50 respondents interviewed 92% were gardening in order to make a living and 40,5 % were pensioners who supplement their pensions with gardening. A total of 33.3% were employed on informal jobs and also supplement their income with gardening. A total of

17 % were involved in gardening and informal trading by selling of sweets, chips, sheep's head and feet trotters, meat, and fire-wood.

**Table 9: Ranked reasons for gardening**

Reason	Frequency	Percentage
Access food	35	70
Pleasure	5	10
Cash	4	8
Complement diet	4	8
Avoid squatters	2	4
<b>Total</b>	<b>50</b>	<b>100</b>

Amongst the respondents views regarding motivations for gardening varied with 70% being involved in gardening to access food. On the other hand 10% were gardening for enjoyment while 8% were gardening to complement diet, another 8% gardening to generate money and 4% were gardening to secure land from squatters. Table 9 show that household consumption is the major reason for vegetable production (70%). Access to food and therefore food security for the respondents is clearly the major issue.

**Table 10: Main crops grown by gardening household**

<b>Khayelitsha</b>	Swiss chard (80 % of gardeners), cabbage, onions, tomato, beetroot, carrots, maize, pumpkin, beans, peas, potatoes, lettuce and green peppers.
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Crop preferences of gardening household were rather different. Swiss Chard is the most common crop grown by the respondents, as it is available throughout the year. Maize is another crop, which is prevalent or grown by the respondents especially at Kuyasa site 10 (See Figure 2). This is not surprising since maize is the staple food in African continent (Freeman, 1991: p. 89).

#### 5.4 Growing season

Most gardeners garden throughout the year. Others prefer to grow their crops in summer to avoid the cold and rainy weather during winter, while others prefer winter when there is a lot

of rain to keep the crops alive. In winter they plant leafy vegetables such as spinach, cabbages and tomatoes and do not plant root crops because they are eroded by heavy rain. Those who plant in winter are avoiding summer weather because summers are too dry and hot requiring extensive watering of plants.

### 5.5 Method of cultivation

Most gardeners who obtained training from Abalimi Bezekhaya use trenched bed methods. A three-day course of Abalimi Bezekhaya covers the following subjects: garden design, trench bedding, soil preparation, compost making, seed sowing, seed transplanting, watering, vegetable care and maintenance and pest control. The gardeners have basic gardening skills and apply basic farming methods learnt in rural areas elsewhere in the country.

### 5.6 Gardening experience

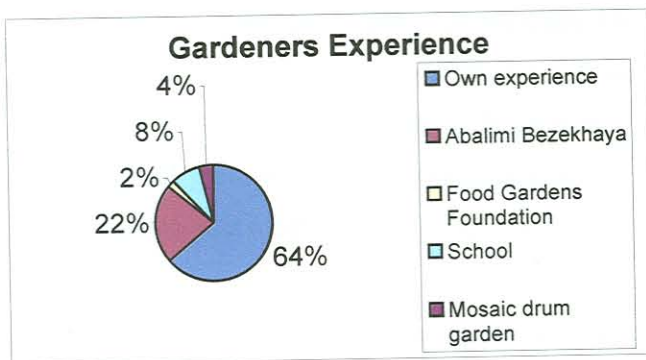


Figure 7.

A total of 64 % of the household surveyed had their own experience since they came from farming environments such as the Transkei and Ciskei. A total of 22% obtained gardening training from Abalimi Bezekhaya. A further 14% relied on three other sources for gardening experience, namely 2% from Food Gardens Foundation, 4% from mosaic drum irrigation and 8% from school. Those possessing their own experience, claim that they inherited gardening experience from their parents, friends and relatives. Others learned gardening in Cape Town suburb of Constantia. As one respondent said: *“I was working in nursery in town and I gained experience.”*



**Table11: Cost of growing vegetables**

Production Costs	Per Crop
Seeds and seedlings	R0.25m <sup>2</sup>
Manure and Compost	R0.05m <sup>2</sup>
Water	R0.25m <sup>2</sup>
<b>Total</b>	<b>R0.55m<sup>2</sup></b>

Source: Eberhard (1989 a: p.6)

Production costs include the cost of seeds, seedlings, manure, fertilizer and water. An average gardener who purchases seeds, manure, fertilizers and municipal water can be expected to pay about 0.7c for each square metre of garden cultivated per crop. This cost represents about 50% of the value of crops produced.

### 5.7 Economic significance of community food gardens and backyard plots

Sandler (1994: 44) put it that: “*In the Cape Metropolitan Area, an average gardener with 20m<sup>2</sup> will produce vegetables with a net value of R135 per year, expending approximately 192 labour hours (less than an hour a day at a labour rate of 65 cents/hour)*”. Each individual gardener is not guaranteed that income received from the selling vegetables will exceed the cost incurred during the production process.

**Table 12: Gardening income as proportion of household subsistence level**

	Monthly expenditure	Income as a % of expenditure
Rent	R 48	21,7
Vegetables	R 60	17, 36
Food	R 280	3.7
Total	R 510	2

Source: Sandler (1994: 45)

Sandler (1994:55) goes on to say that “*Net monthly income from 20 m<sup>2</sup> garden is R10, 42*”. A significant proportion of households live below the household subsistence level, hence R10,42 can represent a fairly significant proportion of household expenditure.

Cousins, Cousins & Theron (1996: 25) state that a vegetable garden covering 13m<sup>2</sup>, which is

the usual the size of communal garden plots, can only produce 20% of the requirements of the average household (in rural areas). Eberhard (1989c: 4) goes on to say that two square metres yields 1kg of vegetables per month. Although these studies were made 13 years ago the situation still exists today. It is very difficult to get an accurate picture of the quantities and value of production from urban agriculture because production is seasonal, household members also consume produce and sales are intermittent. Income from sales by vegetable gardeners is determined by factors such as size of plot, gardening skills and duration of operation. Because record keeping of production cost and sales are practically non-existent, income generated from vegetable selling was unobtainable at worst and unreliable at best.

### 5.7.1 Factors affecting the economics of urban agriculture

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- Value of produce:**
- amount
  - value of the produce
  - nature, availability and cost of alternative foodstuff
- Cost of inputs:**
- land (rental and opportunity of alternative uses).
  - gardening equipment, seeds, water, plants, compost, wind breaks, manure, fencing, inorganic fertilizer, opportunity cost of labour.
- Project cost:**
- creation of urban agriculture infrastructure
  - project management and administration tasks
  - extension work
  - opportunity cost of land used for urban agriculture or other uses
- Probability of success:**
- likelihood of crop failure
  - gardening tradition
  - available expertise
  - theft and vandalism
- 

Source: Eberhard (1989/E2:)

Growing vegetables for subsistence or as survival strategy is the prime motive for all urban and cultivators, and gardening is often undertaken to effect valuable household savings on food. Production figures and the amount used for consumption are very hard to find both in and community food projects as well as home gardeners because there is no record keeping and sales are intermittent.

Most of the respondents are unaware of the costs incurred during production process; they are usually only aware of marginal amounts spent on certain inputs such as manure and seeds. There is a lack of extension services to all urban cultivators. Karaan and Mohammed (1996) in their evaluation of Abalimi Bezekhaya state that there is a substantial demand for advice and extension.

Suprisingly, theft and vandalism are minor constraints to community food gardening as well as home gardening, while the major constraints include insufficient supply of water, insecure tenure and snails. From the surveys it is evident that, land and water are the most serious constraint to all community food projects in Khayelitsha.

Most of the food gardeners appear to be old Xhosa-speaking persons with some degree of farming experience from their childhood and some labours in nurseries and on farms in towns and cities.

## **5.8 Typologies of urban agriculture in Khayelitsha**

A typology of farming households is useful to assists planners in understanding diversity in agriculture. Urban agriculture in Khayelitsha can be categorized into three types in terms of spatial territory, practices and systems, namely backyard gardens, community garden projects and livestock keeping. The first is practiced at enclosed sites on private premises by the household members. The second is practiced on open-spaces, and the land does not belong to the cultivator, it is situated away from the premises of the cultivator. The third type is widely practiced informally in Khayelitsha. Livestock keeping ranges from goats and cattle kept in back-yards (*Nufarmer*, 1996) and also free ranging chickens.



Community food gardens are located at schools, churches and on idle state land. Backyard gardens are located on residential sites. Generally, officials neglect backyard gardeners or home gardens. Back-yard gardens and community food gardens are quite different and hold different reasons for gardening. Low socio-economic status people participate in backyard and open-space cultivation. Both are on small scale. Backyard or home gardens are for subsistence purposes, to access food and for selling of surpluses to local people. Community food garden projects are for subsistence purposes as well as for income generation, no firm right of tenure and land is less available for them.

General pattern of typology for the surveyed home gardens and community food gardens is based on the following:

- Location
- Motivation for gardening
- Average size
- Land tenure
- Size of the plot
- Production type
- Market penetration

Table 13: Differences between backyard gardens and community food gardens

Main differences	Home Gardens	Community Gardens
<b>Scale</b>	Small scale	Small scale
<b>Group</b>	Low-income group	Low-income group
<b>Average size</b>	2 household members	± 20 members
<b>Location</b>	Home/ Residential plot	Distant/ Out of premises
<b>Land</b>	Small plot 100m <sup>2</sup>	Community garden unit (per farmer) sizes range from 150m <sup>2</sup> (Montagu –Ashton) to 0,3-04ha (Saron and Pella) 2 ha (Goedverwacht)
<b>Ownership</b>	Individual ownership	Land is earmarked for other purposes
<b>Tenure</b>	Secured	No firm right of tenure / Insecure
<b>Livelihood Outcomes</b>	Food security	Food security and income generation
<b>Production type</b>	Plants and animals	Plants and animals
<b>Quantity produced</b>	Insufficient for marketing	Sufficient for the market
<b>Market penetration</b>	Low market penetration. Intermittent sales.	Sell local and also market in Observatory and Constantia. Medium market penetration. R100 per member per 100m <sup>2</sup> (Abalimi Bezekhaya.).
<b>Percentage income</b>	Low	High

There is a wide variance in terms of plot size between and within farming groups. Backyard gardens are very small trench beds covering 100m<sup>2</sup>. Community garden unit (per farmer) sizes range from 150m<sup>2</sup> (Montagu –Ashton) to 0,3-04, ha (Saron and Pella) 2ha (Goedverwacht).

**Table: 14** Average annual yield, value of produce and labour input for small vegetable gardeners

Area (m <sup>2</sup> )	Yield	Gross Value	Net Value	Time (hrs)
10	60	108	62,5	96
20	120	216	125	192
50	300	540	312,5	288
100	600	1080	625	576
150	900	1620	937,5	864

Source: Sandler(1994: 42)

Net income per hectare is high (62 500/ ha ) but as plot size increases from small backyard subsistence plots, empirical data shows a rapid decline in net income per hectare, as input costs and the degree of market penetration rise more than proportionately.

It is difficult to estimate time spent in the garden, as the circumstances vary from plot to plot. People often allocate their spare time (usually after work hours) for those working to their gardens. Pensioners and the unemployed tend to allocate more of their time to gardening as opportunity cost of using their time somewhere else is lower.



A typology showing the characteristics of peri-urban and semi-rural agriculture has been put forward by May & Rogerson (1994) (See Table 15).

**Table 15: Farm models in urban area**

	Low Market Penetration <sup>1</sup>	Medium Market Penetration <sup>2</sup>	High Market Penetration <sup>3</sup>
<b>High Population Densities</b> (1000 or more people per square kilometre)	Home consumption; Kitchen or community gardens (200-300m <sup>2</sup> ) Vegetable crops <sup>4</sup> ; Adjacent home; Supplementary food source; Low technology <sup>5</sup> ; No overheads; Church/NGO support; Family labour <sup>6</sup> ; Invasion of passive land are likely High urban fringe penalties up to 50% of crop <sup>7</sup> ; Gross Farm Income = R1.50/m <sup>2</sup> <sup>8</sup> ; Net Farm Income = R1.30/m <sup>2</sup> <sup>9</sup>	Sale of surplus crops from home; Home Gardens (400-500m <sup>2</sup> ); Vegetables, Fruit and medicinal plants; Adjacent to home, Supplementary in come and food source; Fertilisers and sprays <sup>10</sup> ; Low overheads (1 200 p/a) <sup>11</sup> Church/NGO support; 1-2 hired labourers; Land invasion and passive land are likely High urban fringe penalties up to 50% of crop; Gross Farm Income = R5.25/m <sup>2</sup> Net Farm Income = R2.60/m <sup>2</sup> net.	Sale of specialist crops to markets and retailers, Home Gardens (400-500m <sup>2</sup> ); Salad vegetables, sub-tropical fruit, herbs, ornamentals <sup>12</sup> ; Supplementary income sources, Fertilisers, sprays, irrigation; Medium overheads (R10 000- 15 000) <sup>13</sup> Private sector/ Department support; 3-5 hired labourers; Land rental likely High urban fringe penalties up to 33 % of crop depending on type. Annual income will depend upon crops.

**NOTES**

1. Production is for home consumption, with some sales when there is marketing production. No marketing system.
2. Up to three quarters of production is sold through informal channels. Direct marketing to consumers is undertaken by family members.
3. Over three quarters of production is sold through a range of marketing channels. Marketing may use fresh produce models, and contract arrangements may be with chain stores.
4. Three crops per annum are assumed for all food crop models. Staple food crops include beetroot, cabbage, carrot, cauliflower, green beans, sugar beans, green mealie, onion, potato, sweet potato, spinach, pumpkins and squash.
5. A seed/seedling cost of R0.40/m<sup>2</sup> is assumed for garden plots, bought from retail outlets. For large plots, economies of scale have been allowed for using Cedara data. (Prices adjusted for inflation).
6. Ebehard estimates that 45 minutes labour per m<sup>2</sup> is needed per month for a home garden.
7. Crop losses due to theft of this scale were reported in Tembisa and Groutville. It assumed urban fringe penalties decline as population density declines, and more that more commercial ventures have fenced land with greater crop security
8. Gross farm income equals the value of the yield.
9. For gardens, Net Farm Income is Gross Farm Income less input costs.
10. Ebehard assumes a fertiliser cost R0.08 per m<sup>2</sup> per crop, a compost of R0.25 per m<sup>2</sup> per crop and a spray cost of R0.80 per m<sup>2</sup>. (prices adjusted for inflation).
11. One full time labour at R100. per month or 2 part time labourers.
12. Additional non-staple food crops include peas, okra, cucumber, lima and broad beans, chillies, eggplant, lettuce and tomatoes.
13. Three full time labourers at R100 per month. One second hand LDV. Irrigation equipment R2 000, Total cost R 4000. Tools and vehicles are depreciated over 5 years.

May & Rogerson's (1994) typology is applicable to Khayelitsha communities with slight adaptations. Their typology is based on market penetration and that home food gardens are low market invaders, most produce is consumed by the household, gardens are the supplementary source of income, low technology is used and support services are from local NGOs. Low market penetration gardens are on a small scale and marketing of produce is not the sole motivation for gardening but the primary motive is to gain access to food and the secondary motivation is marketing on an informal basis and sales are intermittent.

None of the respondents interviewed are gardening solely for marketing. Community food gardens produce sufficient amount for marketing but they also consume their produce. Produce is mainly sold locally. As already stated, sales occur on the project site with buyers coming to the project.

It is very important to note that community food gardeners and home gardeners are not farmers but gardeners, they produce primarily for subsistence purposes on limited areas and market their surplus to neighbours and those met locally but not necessarily friends, while farmer motivation is to produce mainly for marketing.

Cousins, Cousins & Theron (1996) point out that vegetables produced by community and home gardens are used for home consumption and the surplus is sold directly to acquaintances and neighbours at a prices a little lower than those in local shops.

This study has developed the typology of the farming households in Khayelitsha using farming reasons as a criterion (see Table 16).

**Table 16: Typology of farming households**

<b>Types</b>	<b>Reason for urban farming / gardening</b>	<b>Percentage respondents</b>
<b>Type 1</b>	Gardening for home consumption	70
<b>Type 2</b>	Gardening for home consumption and marketing	8
<b>Type 3</b>	Gardening to complement diet	8

<b>Type 4</b>	Gardening for social interaction and enjoyment	10
<b>Type 5</b>	Gardening to secure land from squatting people	4
<b>Total</b>		<b>100</b>

The above table show that household consumption is the major reason for vegetable production (70 %). Access to food and therefore food security for the respondents is clearly the major issue.

### 5.9 Youth perceptions with regard to urban agriculture

Asked about youth perceptions with regard to urban and peri-urban agriculture 82% said the youth do not like to participate in agricultural activities. One respondent said: *“The youth like jukebox and liquor.”* Of those interviewed only 8 % said the youth like agriculture and a total of 6% raised interesting reasons why the youth shun agriculture, for example: *“They are not involved because they do not know, some of them like trees not gardening”* while 4 % said they do not know about the youth perceptions with regard to urban and peri-urban agriculture.

Gardening should not be associated with rural nostalgia, pre-industrialism, navitism, and nationalism. It should be associated with freedom, urbanism, new technology, internationalism and cosmopolitanism. Gardening is concerned about democratic development of the society and environment.

### 5.10 Attitudes of the local community towards gardening

A total of 84% of the respondents believe that the attitude of local community towards gardening is positive. As one respondent commented: *“They like it because it’s food and food is at center of our lives both culturally and biologically, they are saying it’s beautiful and green and they love it.”* Food is the source of enjoyment and of nourishment (Garnett, 1996). Only 6% of the respondents felt that the attitude of local people is negative towards gardening. As one respondent commented: *“They say manure is stinking, agriculture is a rural activity so it should not be practiced in townships”*. A respondent from Quaker Peace



Garden said that, “*They think we are hungry to such an extent that we are mad. When we work at garden we become dirty and they look at us as if we are mad and laugh at us*”. A respondent from SCAGA answered: “*Community residents said we are gardening because we have HIV/AIDS and we want to eat vegetables so as to cure ourselves*”. A total of 10% felt that they either preferred not comment on behalf of the community attitude or they were neutral.

**Table 17: Constraints viewed by respondents with regard to gardening**

<i>Main Problem</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Secondary problems</i>	<i>Percentage</i>
Insufficient water	4	8	5	55.6
Insufficient land	9	18	0	0
Poor soil quality	12	24	3	33.3
Laziness	11	22	0	0
<i>Lack of inputs (shopping list)</i>				
Lack farming knowledge, extension, manure and seedlings	11	22	1	11.1
Limited time	3	6	0	0

### 5.11 Physical constraints

The main constraints towards agricultural development varied according to a particular section in Khayelitsha. For example, with reference to site 12 (See Figure 2) the main problem mentioned by the respondents was the insufficient supply of water. Amongst the most significant is the insufficient supply of land, shortage of water and poor soil quality. In Site 10 (See Figure 2) the respondents mentioned poor soil quality as the main problem. A total of 88% mentioned snails as a major problem in their garden, while 10% mentioned birds as problem and 2% mentioned cutworm.

From Table 17 it can be concluded that insufficient supply of water is critical 63%; poor soil quality 57.3%; insufficient land 18% and 33% mentioned lack of inputs such as manure,

seedlings, extension services, and farming knowledge.

The respondents said water tariffs are too high and Council needs a lot of money as a result they are in arrears. As one respondent commented: *“We use very little water when watering our gardens as a result our plants wilt”*. Water should not be lacking otherwise the plants wilt and should wilting be prolonged death of plants may result. As one respondent reported that, *“The bills are too high for us and we pay as little as R50 because the council possesses our assets.”*

Small (2001: p.25) emphasizes that water and land are not considered as a real main constraint for resource poor households as these resources are available in Cape Town. Palmer & Eberhard (1994) also states that Western Cape urban dwellers are reportedly best off in South Africa with regard to access to water supply. That was eight years ago and today community food gardens as well as home gardens are paying for the use of water. During field visits there were meetings between community members and Council members regarding payment of water. Small’s statement is contestable because the respondents mentioned shortage of water and land as major constraints towards agricultural development in Khayelitsha. During interviews at Women’s Unity community garden and ‘Yours and My Garden’ the respondents complained about the shortage of water. Abalimi Bezekhaya assisted by setting up a pilot drum-drip irrigation system at the SCAGA and various other community projects. The system is ideal for Cape Flats condition as it reduces loss of water due to wind and evaporation and moreover is simple and relatively inexpensive. There is low water pressure in the drum irrigation system installed by Abalimi Bezekhaya, therefore requiring the improvement of the system.

### 5.12 Economic constraints

Access to credit is a problem for all the respondents. Credit facilities are absent and therefore people are unlikely to be able to invest in expanding small enterprises. None of the respondents has access to credit due to lack of collateral security. These communities have limited access to markets because of racial preferences. Lack of transport and lack of business skills are also problems for home gardeners. There is no garden shop in Khayelitsha.

- Wind tunnel capital
- Cash flow problems (financial capital)

### 5.13 Socio-cultural constraints

A total of 22% of sampled residents mentioned laziness and lack of commitment as constraints to agricultural development in Khayelitsha. A total of 10% mentioned theft, 6% poor image of agriculture and 6% said gardening consume time. Lack of appropriate gardening skills of the respondents coming from rural environments with good loamy soil to the adverse environmental conditions, such as poor sandy soil in Khayelitsha, was also mentioned.

Mavis from Women’s Unity said that “*Apartheid still exists in Cape Town. Our people are oppressed mentally, they are dependent on someone else for their living, they do not want to work in the garden, and sometimes they say we are mad, especially when dirty. They do not want to own something. Agriculture is perceived as hard work by the society and they tend to neglect it.*” Eberhard (1989b) goes on “*People don’t want to get involved in anything that requires any form of commitment or cost*”.

### 5.14 Institutional constraints

As mentioned previously, the vast amount of literature on urban agriculture states that insecurity of land tenure is the major drawback in facilitating sustainable urban agriculture for the benefit of the urban poor. Institutional constraints may be referred to as official’s negative attitudes towards urban agriculture and policy discriminations. Mascarenhas (1986) identified institutional constraints as city laws preventing the cultivation of crops in urban areas or by-law restrictions, the belief that cultivation of crops in urban areas is a failure of development and price subsidies for imported staples. Box 1 provides a list of physical, institutional, economic and socio-cultural constraints on urban agriculture in Cape Town.

**Box 1: Constraints associated with urban and peri-urban agriculture in line with sustainable livelihood framework**

- Lack of access to land (natural capital)
- Insufficient supply of water (natural capital and physical)
- Poor soil quality (natural capital)
- Lack of accessible market. (transforming process and institutions)
- Wind (natural capital)
- Cash flow problems (financial capital)



- Lack of suitable gardening knowledge (human capital)
- Theft (social capital)
- Opportunity cost and/or alternative livelihood strategies (processes, trends and shocks).
- Conflicts (social capital).

Sources: Eberhard (1989b); Beaumont (1990); Katzchner (1995); Thorgren (1998) Fermont *et al* (1998)

### 5.15 The contribution of urban agriculture- livelihood outcomes

In South Africa, Eberhard (1989a) studied the potential of urban agriculture in Cape Town. However, his research is pessimistic. He declared that home gardening is economically insignificant, less than 1% of the monthly budget of a household living at household subsistence level. (Eckert, Liebenbenberg & Troskie 1997) also state that, unlike many other cities throughout Africa, Asia and Latin America, household-based food production in Cape Town is insignificant.

On the other hand, Meadows (2000: p.114) concludes that the fact that urban farming exists in the townships and that there are NGOs dedicated and committed to providing support services for vegetable gardeners, suggest that there is significant support for the practice. Slater (2001: p.3) contests Eberhard (1989b): *“If urban agriculture has little to offer by way of income generation or substitution then why do so many households in the townships of Cape Town continue to endeavour to produce vegetables”*. Small quoted in Sandler (1994: p.28) state that *“Home gardening is highly significant in terms of creating household food security and procures substantial household saving”*.

In Khayelitsha the respondents mentioned that gardening helps them to access food as well with expenditure substitution. Informal exchange of vegetables bartered for other products or services increases their ability to survive and to live a more prosperous life. It made an important contribution to the intake of vegetables and reduced their food expenditures. Apart from obtaining fresh vegetables to access food, earning money by selling vegetables improves the livelihood of the poor.

Another contribution of urban agriculture other than financial profit, is a sense of well-being arising from improved environment and productive use of time. Gardening helps people to overcome mental oppression caused by the political system in South Africa in which people of different races were kept apart and wishful expectations of present government that people should take responsibilities of their lives. Contributions of urban agriculture are also listed in Box 2.

**Box 2: Benefits of urban and peri-urban agriculture in relation to sustainable livelihood framework – expected livelihood outcomes**

- More income
- Reduce expenditure spend on food and save money
- Lowers the transaction cost
- Exercise and fitness
- Employment generation (reduced vulnerability)
- Improved nutrition (food security)
- Binds the community (increased well-being)
- Sustainable use of natural resources

**5.16 Available open spaces in Khayelitsha**

The Land Development Unit (1995) cited by Catling & Saaiman, (1996: p.170) states that significant areas of unused land belonged to Ikapa Town Council and the SADF and that there were wide land corridors along the main road, railway lines and beneath Eskom power lines. SCAGA is on servitude land – this in the face of opposition from environmentalist and conservationists concerned about the loss of species diversity (Wood, Low, Donaldson & Rebelo 1994).

As one respondent reported: *“There are lots of open spaces in Khayelitsha but when we want them they say these vacant spaces are earmarked for soldiers (SADF)”*. Respondents from Quaker Peace Garden said that *“Jo Slovo School is not yet occupied with vegetable gardens, K1 and K2 are vacant. There is also a vacant land along Highway from Mitchell’s Plain, Mdala Boss at Macassar, Kei River and Strand.”*

Respondents from Nondyebo Active Women's Group said there is available land near Good Hope College next to the graveyard. They also mentioned that there is also land near the police station. One respondent said the area next to Bongolethu Supermarket is vacant.

Elsenburg is responsible for the official geographic information systems (GIS) database of existing and potential land suitable for small farmers.

**Table 18: Vacant and under-used state land in Cape Town**

Site	Ownership	Area	Possible population 100 du's/ha gross	Possible population 50 du's/ha gross
Culemborg Yards	Transnet/Portnet	600 ha	270 000	135 000
District Six	Public/Private	50 ha	22 500	11 250
Marconi Beam	Telkom	213 ha	95 850	47 925
Wingfield Military Base	SADF	350 ha	157 500	78 750
Youngsfield Military Base	SADF	210 ha	94 500	47 025
Ysterplaat Military Base	SADF	209	94 050	47 025
<b>Total</b>		<b>1 632 ha</b>	<b>734 400</b>	<b>367 200</b>

Source: Behrens & Watson, (1992)

### 5.17 Risk associated with urban agriculture.

More than rural agriculture, urban agriculture entails risk to the health of urban populations if it is not managed and carried out in an appropriate manner (Lock, 2001: p.6).

In 1987 it was estimated that approximately 10 000 people die each year in Third World countries and about 400 000 suffer the effects of pesticides poisoning (World Commission on Environment and Development, 1987: p.40) cited by Obosu-Mensah (1999). In addition, the use of chemicals in food production is also thought to contaminate soils and crops. (De Zeeuw, 2000) states that the use of agro-chemicals may lead to acute poisoning which can cause a range of symptoms which are often not correctly diagnosed such as diarrhoea, dizziness, memory impairment, convulsions, coma, kidney impairment and lung fibrosis. He



added that agrochemicals are a major cause of suicide worldwide.

The World Health Organisation Commission on Health and Environment (1992) states that the level of risk of crop or ground water pollution due to agrochemicals is higher in intensive commercial farming, especially for vegetables, than in traditional and subsistence farming (De Zeeuw, 2000).

United Nations Development Programme (1996:199) states that production of food from polluted urban environments may cause contamination. Industrial pollutants may affect human beings as well as air, water and soil. Emissions from motor vehicle exhausts may pollute the environment and result in health hazards caused by the deposition of lead onto vegetable leaf surfaces and penetration into the soil and result in ingestion of lead by eating vegetables (Ebehard, 1989: p.3) In Khayelitsha the risk of contamination of crops with pathogenic organisms is high due to re-use of organic solid waste such as manure. Improperly maintained compost heaps result to an increased incidence of rodents, which may be reservoirs and vectors of diseases.

Crops grown close to factories and food purchases from street vendors may be contaminated with air-borne lead and cadmium. The use of rubber tyres may cause *Aedes* mosquitoes, which cause diseases. Poor disposal of organic solid waste such as animal manure, crop residues, and waste from kitchens may attract flies and rodents that may carry other diseases such as plague and scavenging by domestic animals such as dogs and cats.

Some (8%) of the surveyed respondents mentioned dogs as problem for urban agriculture. As one respondent mentioned: "*Dogs piss on our gardens and we are in risk of diseases and increased mortality*". A total of 10% mentioned theft as a risk associated with urban agriculture. A total of 82% said there no is risk associated with urban agriculture.

Although the surveys did not focus on livestock keeping, the officials discourage livestock rearing in urban areas because of bad odours from animals (De Necker & Uys, 1995: p.4). Some officials have a fear that livestock in urban areas may spread human diseases. For example, Zoonosis is a disease which can be transmitted to humans from animals during animal husbandry or meat consumption.

Zoning legislations are strict on livestock keeping. These legislations do not allow livestock keeping in urban areas because animals graze on wetlands and are a hazard to the environment. There are stray animals in Khayelitsha and they cause traffic problems and accidents and moreover there are no grazing camps as result animals eat plastics and graze on wetlands.



**Plate 4** Roaming animal in Khayelitsha

Cousins, Cousins & Theron, (1996: p.24) state that risk management strategies are a major characteristic of the resource-poor farmers that must be taken into account when designing programmes to promote agriculture as a source of livelihoods and are likely to influence their responses to institutional, financial, technical and other support services.

## Chapter 6

**Urban and Peri-urban Agriculture on Policy Agenda****6.1 Introduction**

The main purpose of this chapter is to examine a body of literature on policy issues pertaining to urban and peri-urban agriculture in South Africa so as to assess reasons for the negligence of literature on urban agriculture to address the reasons for official's positive attitudes towards urban and peri-urban agriculture. In conclusion the paper calls for considerate attention to urban and peri-urban agriculture by policy makers, government officials, researchers and those concerned and a realization of the need for policy reform.

### **6.2 Reasons for the rejection of urban agriculture by policy makers, government officials and town planners**

In South Africa, there is no comprehensive policy specifically geared towards urban agriculture as urban town planners and policy makers in general do not view it as a potential land use within our urban areas. Various departments might develop programmes and activities related to urban agriculture, but they have not yet been institutionalized and integrated within other policies.

Coetzee (1994) has stated that urban agriculture has been excluded as a planning parameter in development projects in urban areas because of its perceived inability to contribute to economic growth. That was eight years ago and even today Brown (2002) admits that there is no action plan for urban farming activities, formally approached and there are no specific regulations and norms regarding urban land use in relation to urban agriculture. There are no clear policy guidelines on urban agriculture and it is not integrated into city development plans. In South Africa, town planners and policy makers have little understanding about how the urban poor survive. They do not understand what life is like for the poorest of the poor. As a result, urban plans and policies generally have little relevance to the situation which the poor face and may well; make it far worse (Rakodi 1993; Rogerson 1993)



De Necker & Uys (1995) conducted a survey on urban manager's perceptions with regard to urban agriculture in Greater Cape Town. Their findings reveal that urban managers perceive urban agriculture to be of a temporary nature and economically insignificant. Migrants move to cities in search of jobs and they have to adapt to city life. Accommodating urban agriculture hampers densification and leads to urban sprawl. If officials say that peri-urban agriculture is only temporary and argue that it cannot be accommodated in long-term city planning, the statement should be contested because poor people migrate to townships to stay; therefore urban agriculture is going to stay too.

Tinker (1994:vii,) puts it that urban agriculture is considered as an oxymoron and has been largely ignored by agricultural planners, government officials and policy makers. Slater (2001: p.6) concurs that, "*Urban agriculture is an oxymoron and indicative of failure in the urban development process*". Tinker (1998: p.5) goes on to say that "*Despite the predominance of poor people in cities of the developing world, most planning favors the elite on the grounds that income statistics reinforce the presumption that city dwellers are better off than those living in rural areas but in urban areas poverty is underscored when income is adjusted to reflect the high cost of food in cities*". Opinions expressed by the interviews are interspersed in the following two boxes to illustrate, support or rebut findings gleaned from the literature.

**Box 3: Key informant interview (Tygerberg Council)**

*Officials view urban agriculture as a 'nuisance' they want anything other than residential. They perceive subsistence farming as a waste; they are interested in huge commercial farming. Agriculture is noxious; nobody wants to be seen with agriculture because it is associated with low status. Legislation and rules chop off town planner's hands. The outdated laws and regulations bind us. I have to enforce the law even if I disagree with it or is outdated otherwise I will lose my job. For instance I'm using the law that was developed in 1994, the officials are not changing laws with regard to land-use planning. They are changing laws concerning HIV/AIDS and smoking acts. Moreover, town planners are not doing their core function (planning); they are busy doing administrative tasks such as budgeting. Furthermore there are no models readily available to the officials and planners in order to apply the concept of integration of urban agriculture in land use planning.*

Leon Myburgh (2002)

**Box 4: Key informant interview (NGOs)**

*The land here in Khayelitsha is earmarked for housing for a longer term as a result it ended up being a dumping site, full of rubbish and hazard to our environment. Community residents throw garbage at these reserved sites. Open spaces have been reserved for houses, churches, schools, and recreational activities for longer term. For example, another open space next to Khayelitsha station is earmarked for CBD (central business district). These open spaces encourage crime, crime in the sense that our kids are being raped and gunned down at these open spaces. She added, boys come to these open spaces to smoke dagga and practice crime. The officials say Khayelitsha is no longer a township, it is a big city, it is more modernized, and therefore agriculture cannot be practiced in modernised city. Authorities say that rural people must adapt to township life. They must accept western standards and be modernised. Gardening is people's culture and heritage and culture is something that cannot be modernised at all.*

Cristina Kaba (2001)

American studies show that where there are no flowers and gardens there is likely to be more litter (Johns, 1993).

Cristina's saga continues: *"In 1994 we applied for land to the Municipality of Tygerberg. They replied saying the land was reserved for schools, but according to us there are enough schools in Khayelitsha, as a result they are merging two schools because of fewer students at school. The minister from the parliament visited us and we told him that we want land for gardening. Minister followed up the matter to the council, asking them why not giving land to people whom want to garden. In November 2001, the council gave us the land but on condition that we have to lease it. "Community residents cannot lease land because they earn very little income; insufficient to meet conventional land purchases requirements".*

Cristina commented: *"The Councillors are doing top-down approach, they are imposing their ideas on us and the communities become annoyed by that. For instance the Council established two community gardens at Harare and Litha Park. The projects were unsuccessful because people were told what to do; the council was exploiting them. The council is now coming to me to rectify their problems".*



### 6.3 Reasons for the acceptance of urban and peri-urban agriculture by policy

Urban agriculture, especially the cultivation of crops, may be hindered by competition between agriculture and other forms of land uses. Land is for building houses so that people can go and work in secondary industries. If land is earmarked for housing so that people should work in secondary industries and factories, the statement is contestable because companies are downsizing and retrenching people. It is very difficult for people to get jobs in Cape Town because competition for jobs is tight and most people who migrated from rural areas are illiterate and unskilled. In former times there were more jobs for unskilled people but nowadays the available jobs require skilled and educated people. These unskilled hopeless people convert to agriculture in order to secure a livelihood.

Urban agriculture is not recorded in economic official statistics due to its informal nature, thereby reinforcing the planner's lack of interest. Fisser (1996: p.97) put it: "*Diversity and fragmentation of urban agriculture leads to lack of support and attention from city councillors and town planners*". Lee (1993) "*Even in Africa, Ethiopia for an example, the government attitudes, policy makers and town planners actually discourage urban agriculture. The value of urban agriculture has been seriously under-estimated by government officials*". In Kenya, for example it is illegal to keep livestock or to cultivate crops within urban areas (Smith; 1994). Consequently crops were burned and cultivators were prosecuted. Freeman (1991) states that urban agriculture, especially in Third World countries, is common but remains untouched as a research topic. That was more than a decade but as from 1992 onwards the volume of literature on urban agriculture has increased mainly because of the urbanization of poverty, (Hardoy, Mitlin & Satterthwaite; 2001: p. 280).

Although urban peri-urban agriculture poses risks to health and environment the advantages of incorporating it into economic planning must surely outweigh the disadvantages. The next section will examine why officials are increasingly becoming more positive towards urban and peri-urban agriculture.



### 6.3 Reasons for the acceptance of urban and peri-urban agriculture by policy makers, government officials and planners

Although councillors, town planners and government officials neglected urban agriculture in the past, they are aware of it in Khayelitsha. Urban agriculture is receiving notable attention from councillors because they are giving land to the people who want to do gardening. Furthermore, the City of Tygerberg (2000) note that Khayelitsha is one of the city's poorest communities and they have embarked on a Livestock Management Project. The project aims to improve the general conditions of livestock keeping in Khayelitsha, to eradicate health and environmental problems caused by livestock, and to reduce physical risks such as car accidents.

Esam Esakho Isitiya 'Yours and My Garden' got 20 hectares of land from the council. The project members (11 of them) went to Council to negotiate land and to show them what they do (gardening) and tell them about their motivations for gardening and the way they do it. These people are giving vegetables to patients who are infected with TB and HIV/ AIDS free of charge. The council agreed and gave them the land for gardening. Cristina's group also got land from the council for gardening. The community project located at Nomsa Maphongwane Primary School is also expanding. The school principal gave them permission to use unused land productively because the project members are committed and dedicated to gardening.

Recently Council has given land (approximately 35 hectares) between Town 2 and Mfuleni to the people who have livestock. The area was fenced by Council and livestock owners employ people to look after their livestock. The Economic, Tourism and Property Management services in association with Planning and Environment services are facilitating the construction of the Khayelitsha Livestock Management Project (City of Tygerberg 2000).

In Durban for example, D'MOSS (Durban Metropolitan Open Space System) have keen interest in urban agriculture. Today the need for commercial urban agriculture is becoming more and more apparent. Land that is suitable for urban agriculture is actively being sought (Bodenstein, 1995: p.17).

The officials have understood the positive effects of urban agriculture on human health and the environment. The health aspects include improved access to nutrition and thus improved health, better physical and psychological health due to physical activity and leisure time (De Zeeuw 2000).

The environmental aspects include greening programmes which have a direct effect on the environment. Urban agriculture beautifies the township and surroundings. Eberhard (1989b: p.50) states that in United States of America 73% of the urban gardeners said that beautifying the environment and cleaning it up were the main reasons for their involvement.

Researchers have shown that urban agriculture can benefit urban areas. Rakodi (1988) shows that there is no scientific proof that maize provides breeding ground for mosquitoes in Zambia. Tinkler (1994: ix) noted a prevailing culture and prevalence of rooftop gardens in St Petersburg and Moscow and argues that research on urban agriculture challenges the assumptions of economic development theories, Marxist and Modernist, that see it as the inappropriate retention of peasant culture in cities and confidently predict its disappearance. Sandler (1994: 65) concludes that, urban vegetable gardens are going to be vital to South African agrarian, and to feeding the nation's growing population.

The increase in the number of community gardens in Khayelitsha is a sign of public approval of urban agriculture. Politicians are condoning the practice of agriculture in the city because they want to win support. Arise and Act (*Vuku Zenzele*) by President Thabo Mbeki inspired people to do something for themselves of which gardening is one accessible example. De Necker & Uys (1995: p.6) put it that "*Poor people must be allowed to do agriculture in towns and cities because it is accessible and they are hungry*". Urbanization has resulted in the expansion of urban agriculture and the officials have no choice but to condone the practice.

Finally, urban and peri-urban agriculture has been accepted by international community because of its significance in relation to poverty alleviation (Rogerson, 2001: p.17). The International Development Research Centre (IDRC) with its enviable perspicacity, became the first major international agency to recognise the importance of food production (Tinker 1994). The FAO followed by establishing a specialised support division for urban and peri-urban agriculture



#### 6.4 Conclusions

Ideally every household can sustain itself with subsistence farming, and urban agriculture has the potential to offer just that. Urban agriculture plays a vital role in tackling poverty and improving household food security for the urban poor. It also creates job opportunities and promotes self-sufficiency of urban residents. There are positive and negative perceptions of urban agriculture but there is need for government officials, policy makers and researchers to understand urban agriculture as a survival and last resort coping strategy for the urban poor rather than an income generating activity.

Most of the people who are engaged in agricultural activities are unemployed women between the ages of 30 and 50 years, who are also involved in informal activities which offer very little and insecure. Nevertheless some men are actively involved in gardening, particularly older men who garden to access food and who also enjoy gardening. The majority of the surveyed respondents were unemployed and therefore have less economic opportunities. From the study it can be deduced that people with less economic opportunities are more likely to be involved in agriculture. It can also be concluded that urban agriculture has received very little attention from government officials and policy makers although recently Council is giving land to people who want to garden.

The main reason for the surveyed respondents to be engaged in gardening is to access food, while others said they enjoy participating in agricultural activities, others were gardening to complement diet, others gardening to obtain money and others said that they garden to avoid squatters in their housing compounds. One can deduct that vegetable production does not have the potential to develop into cash cropping (commercial/ market) without support from NGOs and the introduction of other income generating activities such chickens, sewing or beadwork. One individual will need approximately 250m<sup>2</sup> to earn an income of R1 200 per month.

From this review of work on urban livelihoods and agricultural activities and the use of the sustainable livelihood framework, one can conclude that **natural capital**, such as insecurity of tenure, is critical. Access to land is not effectively facilitated at national and local governmental level. Land policies are complex and poorly understood by the urban poor. Limited supply of water is also a critical factor. Levels of **social capital** are relatively low



because gardening projects have found a preference among participants for individual plots rather than shared activities. In relation to **human capital** levels of literacy were quite high requiring a good platform for skill development, extension services and technical training in urban agriculture. **Physical** provision of housing, water and sanitation are often priorities for urban poor people. The need for agricultural spaces should be factored into plans at neighbourhood level and siting of basic amenities on individual house plots.

In planning for development activities the use of the sustainable livelihood framework entails analysis of the context in which different people live, including external trends such as population growth, economic and technological, natural shocks, people access to different types of assets such as human, social, physical, natural and financial capital and their ability to use these resources productively. It is, therefore, useful to use sustainable livelihood framework as it gives a clear picture of how people live their lives and make ends meet.

The sustainable livelihood framework captures all the components of urban and peri-urban agriculture, it applies very well to urban environment and was used by Brook & Davila (2000) to analyse the livelihood strategies of poor household in the peri-urban interfaces of Ghana, Kumasi and India, Hubli-Dharwad.

**4.5.3 Government** Government should primarily address the problems of urban gardeners. Dewar & Watson (1991) argued that, given current and ongoing limitations on expected job creation in the formal economy in Cape Town, there is no doubt that many people will have to turn to the primary resources of the region for their livelihood (cited by Rogerson, 1993: p.41). Government should provide better extension services and inputs. My suggestion is that basic amenities such as running water, access to land, and credit should be extended to urban gardeners. Access to and security of land tenure could be approved through official recognition of urban agriculture. Local council support is essential for granted permissions for community food gardeners to make use of unproductive land productively. Community food gardens and household gardens should be established or watered with water and effective water management should form an important part of any policy (Wade, 1987).

## 6.5 Recommendations

Based on the findings of study, the following recommendations can be made. It should however, be noted that different conditions require different solutions and must be handled by policy-makers on a case-by-case basis.

**6.5.1 Information dissemination** Information exchange between all parties involved in urban and peri-urban agriculture should be disseminated to the target groups. Evidence from literature shows that apart from five working paper series on urban agriculture by Town Planning Branch of Cape Town City Council, most officials were unaware of the available literature, and moreover, the substantial body of literature does not reach the intended target. The findings of research reports including dissertations, theses, books, reports and conference papers should be disseminated to government officials, local NGOs and gardeners. Workshops between gardeners, NGOs and officials should be promoted to ensure effective exchange of information. Community gardeners, NGOs and government officials should make use of available literature and not decorate their offices with research reports.

**6.5.2 Planning** Officials should view agriculture as a resource and not as a problem. Planning for urban agriculture must be recognised as an important part of the policy agenda. Agriculture is an idiosyncratic form of livelihood in a city (Smith, 1994) and thus planning for the accommodation of urban agriculture is needed for the restructuring of our cities.

**6.5.3 Government** Government should primarily address the problems of urban gardeners. Dewar & Watson (1991) argued that, given current and ongoing limitations on expected job creation in the formal economy in Cape Town, there is no doubt that many people will have to turn to the primary resources of the region for their livelihood (cited by Rogerson, 1993: p.41). Government should provide better extension services and inputs. My suggestion is that basic amenities such as running water, access to land, and credit should be extended to urban gardeners. Access to and security of land tenure could be approved through official recognition of urban agriculture. Local council support is essential for granting permission for community food gardeners to make use of unproductive land productively. Community food gardens and household gardens should be subsidised or assisted with water and effective water management should form an important part of any policy (Wade, 1987).

**6.5.4 Policy** A conducive policy environment is a key to the success of agricultural development. Policy formulation should be an iterative process, involving all stakeholders and main practitioners. Information exchange between policy makers, NGOs and gardeners through workshops is needed to address the general ignorance of urban agriculture by policy makers and government officials.

**6.5.5 Role of private sector and NGOs** The private sector should play a vital role in funding community food gardens as well as agricultural research. Local NGOs should continue supporting urban agricultural projects as well as home gardening, making sure that the partnership between local government and themselves is developed to promote co-operation and sharing of resources as well as expertise. It is unlikely that community food gardeners will start or expand gardening without the financial support of NGOs and government.

**6.5.6 Community involvement** In Khayelitsha NGOs and government assistance towards promoting urban agriculture are not enough, therefore effective participation by the community is essential. Community members must promote gardening by associating gardening with freedom, innovation and cosmopolitan. Gardening should be about democratic development of the society and environment.

**6.5.7 Promotion of urban agriculture** City councils tend to favour urban agriculture as a temporary use of vacant public and private land until the land is developed for a different, usually higher status, purpose. Another way of boosting urban agriculture as it is practised today, is to set aside space within RDP housing developments. Households should be given a house and a piece of land to practice agriculture. Inhabitants of the peri-urban squatter camp in Joe Slovo, Port Elizabeth, are planning to develop a settlement with agriculture as weapon to fight hunger (Jarlov, 2001: p.9). Throughout Khayelitsha there are open spaces that have been earmarked for a long time for CBDs, schools and churches but have not yet been developed. There are also open spaces available for vegetable production namely, road reserves, areas beneath power –lines and part of storm drain system.



Urban agriculture in townships should be an everyday part of everyone's experience so that the trading of local produce becomes common place (Burnham, 1994: p.3). Marketing of vegetables is a problem for community food gardens because there is no garden shop in Khayelithsa. Moustier (1993: p.313) points out that marketing inefficiencies actually result from production or transport deficiencies, therefore production and transportation should be the first point of intervention for programmes designed to improve cities' vegetable provisioning.

**6.5.8 Health and safety measures** On the health and safety measures, health officials should give advice to urban gardeners on the type of water and compost usage. Nutrition Departments from the universities should provide advice regarding cooking habits.

**6.5.9 Land-use** From a land use planning point of view, isolated areas should be set aside for livestock keeping and inspectors from veterinary offices should inspect animals to control animal diseases that could be transmitted to humans.

In order to ensure sustainability, types of urban farming must be surveyed and government should provide support by starting with backyard gardens, then develop community gardens (open space cultivation) and move to big commercial agriculture. By moving directly to commercial agriculture is a 'jump strategy' and so policy makers should pave a path for backyard and community gardeners into commercial mainstream.

#### **Areas for future research**

Although much has been done on urban agriculture, future research is needed on the:

- Exploration of the impacts of urban agriculture on the economy as a whole.
- Impact of urban agriculture on the environment in terms of waste disposal and soil conservation measures.
- Extent to which urban agriculture satisfies household basic needs.
- Dynamic changes and current status of urban and peri-urban land tenure, informal and formal markets and other forms of land transactions.

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**Appendix A1: Personal interviews or consultations**

Name: *Captain*

Township:

**Kaba; C (2001)** Senior Field Worker of Abalimi Bezekhaya

Reference:

Interviewer:

Date:

1. *Dynamics of the household*

**Myburgh; L (2002)** Senior Town Planner. City of Tygerberg. Khayelitsha

Code	Age	Gender	Marital	Educational level	Employment
<b>Makhosane; T (2002)</b> . Department of Economic Development. Tygerberg Administration					
<b>Small; R (2002)</b> . Director of Abalimi Bezekhaya					
<b>Wright; L (2002)</b> Development Co-ordinator of Abalimi Bezekhaya					(F)unemployed
2. Spouse of head			(M)arried	2 = std. 5	(H)ousewife
3. Children < 18			(D)ivorced	3 = std. 6-11	(E)mployee
4. Unemployed			(W)idow	4 = higher	(P)ensioner
5. Grandchildren			(S)eparated	5 = none	(B)usiness
6. Father/Mother					(N)o occupation
					(S)tudent

2. Details of the household

2.1 Place of origin (a) *Tsheni*

(b) *Traaskai*

(c) *Other (Specify)* \_\_\_\_\_

2.2 When did you move to Cape Town? \_\_\_\_\_

2.3 Why did you move to Cape Town? \_\_\_\_\_

2.4 How long have you lived in the house? \_\_\_\_\_

2.5 Are there any relatives from rural areas? \_\_\_\_\_

2.6 If Yes, why did they move from rural areas? \_\_\_\_\_

2.7 How many members does the household have? \_\_\_\_\_

**Appendix A 2 Questionnaire**

Name: (optional)

Township:

Street address:

Reference:

Interviewer:

Date:

**1. Demographic characteristics of the respondents.**

Code	Age	Gender (m/f)	Marital status	Educational level (read/write)	Employment status
1. Head			(S)ingle	1 = Pre-school	(F)arming
2. Spouse of head			(M)arried	2 = std 5	(H)ousewife
3. Children >16			(D)ivorced	3 = std 6-10	(E)mployee
4. Children <16			(W)idow	4 = higher	(P)ensioner
5. Grandchildren			(S)eparated	5 = none	(B)usiness
6. Father/Mother					(No)ccupation
					(S)tudent

**2. Details of the household**

2.1 Place of origin? (a) Ciskei

(b) Transkei

(c) Other (Specify) \_\_\_\_\_

2.2 When did you move to Cape Town? \_\_\_\_\_

2.3 Why did move to Cape Town? \_\_\_\_\_

2.4 How long have you lived in the house? \_\_\_\_\_

2.5 Are there any relatives from rural areas Y/N?

2.6 If Yes, why did they move from rural areas? \_\_\_\_\_

2.7 How many members does the household have? \_\_\_\_\_



**3. Livelihood**

3.1 How do you make a living? (head of the household) \_\_\_\_\_  
 \_\_\_\_\_

3.2 Where do you get the start up capital? \_\_\_\_\_  
 \_\_\_\_\_

4.3 Is the household able to meet basic needs? Y/N

3.4 If **Yes** Why? \_\_\_\_\_

3.5.1 What can you do? \_\_\_\_\_

**4. Income and expenditure**

Source of income	Details	How much of your income comes from this activity?	What time of the year do you receive this income?	If you get little money from this activity, can you substitute with another? Which one?
<b>Agriculture</b>				
<b>Commercial business</b>				
<b>Wage employment</b>				
<b>Other (Specify)</b>				

4.1 What are the main areas of expenditure? Amount in Rands spend on each month?

Expenditure items	Jan	Feb	Mar	Apr	May	June	July	Aug	Oct	Nov	Dec
Education											
Health care											
Food											
Drinks											
Clothing											
Travel											
Housing											
Electricity											
Water											
Funerals											
Wedding											
Other											

- 4.2 Do you join societal groups? Y/N and why? \_\_\_\_\_  
 \_\_\_\_\_
- 4.3 How do women's sources of income compare to those of men? \_\_\_\_\_  
 \_\_\_\_\_
- 4.4 On which needs do men spend their cash income and why? \_\_\_\_\_  
 \_\_\_\_\_
- 4.5 On which needs do women spend their cash income and why? \_\_\_\_\_  
 \_\_\_\_\_
- 4.6 How do you see your household within 5 years from now? \_\_\_\_\_  
 \_\_\_\_\_
- 4.7 Is it improving or degrading and Why? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**5. Gardening**

**5.1 Land**

- How did you obtain the land?

	Size	Did you pay and how much?
<b>Bought</b>		
<b>Rented from</b>		
<b>Invaded</b>		
<b>Inherited</b>		
<b>Other (specify)</b>		

- 5.1.1 Who owns the land? \_\_\_\_\_
- 5.1.2 Would you like more land? Y/N
- 5.1.3 If **Yes** why you don't have it? (a) **Expensive**  
 (b) **No land available**  
 (c) **Other (Specify)** \_\_\_\_\_
- 5.1.4 What would you do with more land? \_\_\_\_\_
- 5.1.5 Where is the available land? \_\_\_\_\_

**5.2 Division of labour**

- 5.2.1 Who works in the garden? (a) **Head (husband/wife)**  
**Other (specify)** \_\_\_\_\_
- 5.2.2 Why you work in the garden? \_\_\_\_\_
- 5.2.3 What are the main activities carried out by the men and women separately and jointly? Men \_\_\_\_\_  
 Women \_\_\_\_\_
- 5.2.4 Which activities and resources contribute to most meeting the basic needs of the household? \_\_\_\_\_
- 5.2.5 Comments from neighbours and friends about the garden? \_\_\_\_\_
- 5.2.6 How much do you spend on buying vegetables? +/- \_\_\_\_\_



5.3 Crops grown

- Which crops do you grow and when they are available?

Crops	Available (Monthly)	Yield (Kg/bunch)
Maize		
Beans		
Potatoes		
Pumpkins		
Spinach		
Cabbage		
Onion		
Tomatoes		
Carrots		
Others		

- 5.3.1 Who decides on which crops to be grown? \_\_\_\_\_
- 5.3.2 Why do you grow such a particular crop? **Is it popular or profitable?**  
 Other (*Specify*) \_\_\_\_\_
- 5.3.3 When do you grow? **Winter/summer/ Spring/Autumn**
- 5.3.4 Why do you grow in that particular season? \_\_\_\_\_
- 5.3.5 Do you have fruit trees? **Y/N**

If Yes

Kind	How many	Income	Own consumption

5.4 Inputs

Kind	Where	When	How many	Price (R)	How do you finance inputs?
	1 = local shop 2 = store in town 3 = relative or friend 4 = rural areas 5 = neighbour 6= previous harvest 7= Other (Specify)				1= cash 2= credit 3= Other (specify)
<b>Seeds</b>					
<b>Seedlings</b>					
<b>Fertilizer</b>					
<b>Pesticides</b>					
<b>Fencing</b>					
<b>Poles</b>					
<b>Implements</b>					

6 Natural resources

6.1 Soil type

- 6.1.1 How would describe your soil in your garden? \_\_\_\_\_
- 6.1.2 Is the soil fertile? \_\_\_\_\_
- 6.1.3 Is the soil infertile? \_\_\_\_\_
- 6.1.4 How do you know the soil is fertile or not? \_\_\_\_\_
- 6.1.5 Do you do anything to improve the condition of the soil? Y/N
- 6.1.6 If Yes, What do you do?
- (a) Compost
- (b) Crop residues
- (c) Manure (Chicken/Kraal Manure)
- (d) Inorganic fertilizer
- (f) Other (specify) \_\_\_\_\_

**6.2 Water**

- 6.2.1 Where do you get water for cooking, drinking and washing? \_\_\_\_\_  
 \_\_\_\_\_
- 6.2.2 Do you pay for water? Y/N \_\_\_\_\_
- 6.2.3 If Yes, how much do you pay? \_\_\_\_\_  
 \_\_\_\_\_
- 6.2.4 Where do you get water for watering? \_\_\_\_\_  
 \_\_\_\_\_
- 6.2.5 Do you pay for watering water? Y/N \_\_\_\_\_
- 6.2.6 If Yes how much? \_\_\_\_\_
- 6.2.7 Do you measure the amount of watering water used? Y/N \_\_\_\_\_
- 6.2.8 If Yes how? \_\_\_\_\_  
 \_\_\_\_\_
- 6.2.9 What is the watering system do you use? (bucket, sprinkler, hose, ) \_\_\_\_\_  
 \_\_\_\_\_
- 6.2.10 Do you use waste water from the kitchen in the garden? \_\_\_\_\_  
 \_\_\_\_\_
- 6.2.11 Do you use waste water from the bathroom in the garden? \_\_\_\_\_  
 \_\_\_\_\_

**6.3 Method of cultivation**

- 6.3.1 What planting arrangements do you use? (trench, beds, ridges etc)  
 Other (Specify) \_\_\_\_\_
- 6.3.2 Do you rotate crops? Y/N and why? \_\_\_\_\_  
 \_\_\_\_\_
- 6.3.3 Do you mix the crops? Y/N and why? \_\_\_\_\_  
 \_\_\_\_\_
- 6.3.4 How is the land preparation done before planting?  
 (a) Tractor  
 (b) Hand  
 (c) Other (Specify) \_\_\_\_\_



**6.4 Experience/Technical advice**

- 6.4.1 When do you start growing vegetables?  
**(a) Before training**  
**(b) After training**
- 6.4.2 In which year? \_\_\_\_\_
- 6.4.3 What did you learn from the training? \_\_\_\_\_
- 6.4.4 What are the problems related with training? \_\_\_\_\_
- 6.4.5 Is your experience appropriate in urban areas? **Y/N and why?** \_\_\_\_\_
- 6.4.6 Where did you learn gardening? **(a) Organization (Name)** \_\_\_\_\_  
**(b) Friends/family/neighbours**  
**(c) Own experience**  
**(c) School**  
**Other (Specify)** \_\_\_\_\_
- 6.4.7 Do you have extension services in your area? **Y/N**  
 If **Yes**, what kind of support do you get? \_\_\_\_\_
- 6.4.8 Do you get support from the **church or businesses**?  
**Other (Specify)** \_\_\_\_\_
- 6.4.9 Do you have any gardening projects in your area? **Y/N**  
 (If **Yes** name) \_\_\_\_\_
- 6.4.10 Would you like to join a gardening group? **Y/N**  
 Why? \_\_\_\_\_  
 Why not? \_\_\_\_\_

**7 Problems with regard gardening**

- 7.1 What are the problems towards agricultural development in Khayelitsha?  
 \_\_\_\_\_
- 7.2 What pests and diseases do you find in garden? \_\_\_\_\_
- 7.3 What do you do about them? \_\_\_\_\_
- 7.4 What are the risks associated with urban agriculture? \_\_\_\_\_
- 7.5 What can be done to alleviate risk? \_\_\_\_\_

**8. Opportunities**

8.1 What are the opportunities or benefits associated with urban agriculture?  
\_\_\_\_\_

**9. Attitudes and expectations**

9.1 Why do you garden? \_\_\_\_\_

9.2 What do other people in the community think about gardening? \_\_\_\_\_

9.3 What is the attitude of the youth towards gardening? \_\_\_\_\_

9.4 What are your plans regarding urban agriculture? \_\_\_\_\_

9.5 What do you need in order to achieve your future plans?

(a) **Inputs**

(b) **Stability**

(c) **Advice**

**Other (Specify)** \_\_\_\_\_

9.6 Do you think there is a future of urban agriculture **Y/N** and **Why**?  
\_\_\_\_\_

9.7 What should be the role of government be towards agricultural development?  
\_\_\_\_\_

9.8 Are you aware about local government policies? **Y/N**. If **Yes** what do you know?  
\_\_\_\_\_

**10. Financial management and production**

10.1 What do you do with your produce? **Sell** **Consume** **Exchange**

**Other (Specify)** \_\_\_\_\_

10.2 What do you do with your surplus? \_\_\_\_\_

10.3 If **Sale**: Which crops do you sell? \_\_\_\_\_

10.4 Where do you sell? \_\_\_\_\_

10.5 What makes you decide to sell? \_\_\_\_\_

10.6 How do you determine the price? \_\_\_\_\_

10.7 What do you do with the money? \_\_\_\_\_

- 10.8 Do you have access to credit facilities? Y/N  
10.9 If Yes, What is the amount of credit? \_\_\_\_\_  
10.10 If No why don't you have access to credit? \_\_\_\_\_  
\_\_\_\_\_

## URBAN FARMING GROUPS IN CAPE FLATS

### 1. *Origins, background and objectives*

- 1.1 What kind of agricultural activities does the group undertake? (**crops, livestock?**)  
\_\_\_\_\_  
1.2 When did you start the group? \_\_\_\_\_  
1.3 Why did you form the group? \_\_\_\_\_  
\_\_\_\_\_  
1.4 Whose idea was it to start a group? \_\_\_\_\_  
\_\_\_\_\_  
1.5 How did it start? \_\_\_\_\_

### 2. **Membership**

- 2.1 How many members did you start with? \_\_\_\_\_  
2.2 How many members are there at the moment? \_\_\_\_\_  
2.3 How many male? Male \_\_\_\_\_ Female \_\_\_\_\_  
2.4 What are their ages? \_\_\_\_\_  
2.5 What is the average age group? \_\_\_\_\_  
2.6 Who is allowed to be a member? \_\_\_\_\_  
\_\_\_\_\_  
2.7 Who decides to become a member? \_\_\_\_\_  
2.8 Have there been changes in your group in terms of membership and people?  
2.9 What is the membership fee? \_\_\_\_\_  
2.10 Where do members come from?  
  
Origin \_\_\_\_\_  
Current residence \_\_\_\_\_  
2.11 Did members know each other before joining the group Y/N?