

Food Gardening in Hout Bay—Thrive and Local School Gardens

Nina Brennan (nina.Brennan@purchase.edu)
Marshall Lewis (marshall.L.Lewis@wmich.edu)

Supervisor: Beatrice Conradie
Course: Eco3009F – Economics
University of Cape Town
April 2017



UCT KNOWLEDGE CO-OP

The UCT Knowledge Co-op facilitated this collaborative project between Thrive and UCT.

See <http://www.knowledgeco-op.uct.ac.za> or
Contact us at barbara.schmid@uct.ac.za / 021 – 650 4415

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

Abstract

This paper will discuss the importance of urban agriculture and its impact on the local economy within recent years and which factors impact local gardens. Primarily, the research will aim its focus on production of goods grown in school and community gardens who have been supported by Thrive, a non profit organisation located in Hout Bay. Thrive has contributed to the environmental/economic movement with the use of sustainability projects—resource conservation, waste recycling, etc. Thrive has formed a partnership with local schools in Hout Bay to create community gardens in order to help stimulate the local economy and increase food production for community members—these gardens however, have been noticeably suffering. Thrive contributes to the production of the community gardens and provides resources to the teachers and leaders, otherwise referred to as Champions, and students who run these gardens. Through evaluation and an in-depth research questionnaire, the aim of this research determines ways in which Thrive organises the local gardens production in order to help these gardens flourish and possibly find which resources, or factors may be contributing to the failure to production.

Introduction:

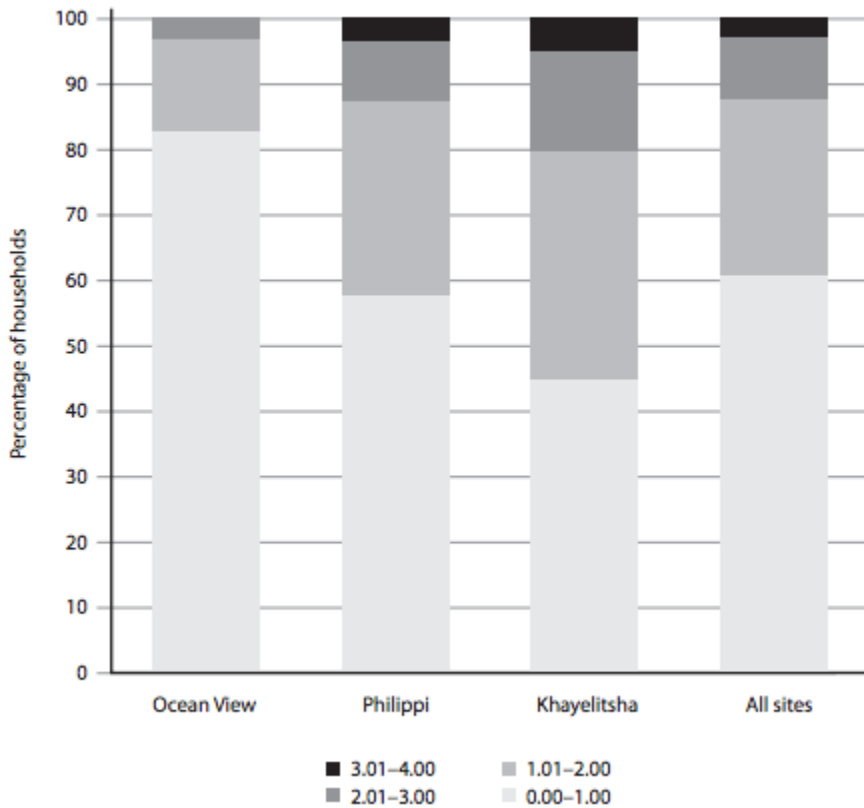
Background

In recent years, urban agriculture has contributed to local economic stimulation along with household food stability in South Africa through sustainability projects (Rogerson, 1993). It has been proposed that urban agriculture is the largest and most efficient tool available to transform urban wastes into food and jobs (Rogerson, 1993), alongside with "improved changes in living environments, awareness of public health, energy savings, natural resource savings and urban management cost reductions" (Rogerson, 1993). Cape Town, a city located in Western Cape, South Africa, is the second largest urban area in South Africa having a population with nearly 3.75 million people (Cape Town Population, 2017). Although contributing to 11% of South Africa's GDP (Battersby, 2011), Cape Town has been suffering from annual unemployment and poverty rates. Between 2015 and 2017, Cape Town has a 2.10% increase in population. Since the early 1980's, urban agriculture has been a growing strategy in Western Cape in order to relieve some pressure faced by low income families. It has been suggested, "It is widely accepted that urban and peri-urban agriculture (UPA) is an important livelihood or coping strategy amongst the poorest urban households for food security and income generation in developing countries" (Thornton, 2008) Urban agriculture addresses goals of poverty alleviation and improves food security.

As city development becomes more prevalent in Western Cape, agriculture practiced within and around the city changes. Urban agriculture takes various forms at different levels. Local agriculture does not substantially contribute to economic growth at a large scale nor does it stimulate urban employment (Nugent, 2000). However, certain conditions, such as economical, social, cultural and political aspects, determine the opportunity to grow or acquire locally-produced food is a critical component of the ability (Nugent, 2000) in or around an urban environment. Urban poverty is most prevalent in South African small towns and townships (Thornton, 2008), therefore those who suffer from poverty are more dependent on it for income and nutrition (Nugent, 2000).

The Lived Poverty Index ran a survey collecting information from Households to determine how often they had gone without six key resources in the last year. The resources included: (a) enough food to eat, (b) enough clean water for home use, (c) medicine or medical treatment, (d) electricity for their home, (e) enough fuel to cook their food, and (f) a cash income (Battersby, 2011). The survey was distributed with an "index score running from 0 (no lived poverty) to 4 (complete lived poverty, or constant absence of basic necessities). (Battersby, 2011). The chart below shows the mean Lived Poverty Index average outcome across all sites was 1.01. across the city as a whole; 40% of households had scores of over 1.0 and 12% had above 2.0 (Battersby, 2011).

FIGURE 9: Lived Poverty Index Scores



Source: This figure was taken from THE STATE OF URBAN FOOD INSECURITY IN CAPE TOWN, Jane Battersby 2011. http://www.afsun.org/wp-content/uploads/2013/09/AFSUN_11.pdf

In South Africa, malnutrition rates are rising in urban areas (Battersby, 2011), in spite of the fact that the country overall nationally has food security and has a well-developed agricultural sector. It is the over crowded towns, as shown in figure 9 above, that are suffering to afford sustainable livelihood resources. Western Cape Provincial Treasury estimated that approximately 23% of Cape Town households earned less than R3500 in 2009 (Battersby, 2011). The statistics further explained, that one-third of the 23% who suffered from poverty earned less that R1200 (Battersby, 2011). Urban peri-agriculture has been promoted in the post-apartheid era as a strategy for poverty alleviation” “However, despite high unemployment, some academics have raised the issue that UPA might be less robust amongst South Africa’s urban poor households, when compared to other developing countries”(Thornton, 2008). The use of Urban Agriculture, both in a community, and within a household, it can provide lower income citizens with a more nutrient filled diet and higher food security. Thrive—Hout Bay, is contributing to the movement of implementing Local Food Gardens into the community to help educate and provide goods for locals.

Thrive

Thrive—Hout Bay is a non-profit organization that unites Hout Bay through environmental awareness events and action projects. The organisation runs projects throughout the Hout Bay area to raise awareness and encourage individuals to make a difference in the community. Founded in 2007, Thrive had created a vision and mission to “enable sustainable well being by nurturing nature’s diversity” (Thrive Hout Bay, 2016). The perseverance of building a sustainable community is based around Thrive’s Five Pillars of Sustainability. These pillars include Zero Waste, Local Food Growth, Water Wise, Energy Efficiency, and Biodiversity. Thrive has formed a partnership with local schools to create gardens to encourage knowledge on local food growth in the communities.

Thrive supports eleven local school and community gardens ran by teachers, students and parents of the Hout Bay Community. The partnership between Thrive and the gardens include support of gardens by providing necessary resources for production. The participants are provided with both compost soil and seedlings. Thrive also offers a direct connection with the local Farmer’s Market in which the produce grown by the school and community gardens could be sold. Thrive’s idea of the market was to create incentives for the students to successfully grow products.

South Africa has been suffering through a drought this past summer season and it seemed to have an impact on agriculture productivity in gardens. The water restriction in the Western Cape is thought to be the main cause of failure of production in recent months. However, even after receiving necessary resources for creating successful gardens, many of the gardens are not creating output. Thrive is looking to find factors, other than water restrictions, that might be contributing to the lack of production of the gardens. The Thrive members asked for outside participants to observe, analyze and contribute ideas that might be stunting the growth of the local gardens.

Vision:

“Thrive has a vision of a united Hout Bay community that demonstrates and promotes social, economic and environmentally sustainable living practices where little or no waste goes to landfill and there is access to food for all.”

Aim and Objectives:

Hout Bay is a suburban town located on the outskirts of Cape Town. It is separated into several neighborhoods divided distinctly by social class and income levels. The surrounding townships suffer from poverty as a result of rapid population growth and a divide in social class. The local non-profit organization, Thrive, had created a partnership with nearby schools to form gardens within the schools and surrounding communities. In focusing on the local school and community gardens and combining both quantitative and qualitative methods, a questionnaire survey was formulated. The objective of this research is to collect data to form a case study on the production of the Local Hout Bay School and

Community Gardens. In recent months there has been a noticeable suffering with the produce being grown and a slowdown in production altogether. With the survey and close observation of the partnership between Thrive and the engaged schools, with the research we are looking to find an answer as to which factors are contributing to the failure of the gardens on both a small and large scale.

Methodology:

Study Site Background

Cape Town, Western Cape has experienced rapid growth in population within the past two decades. From 2000 to 2011 alone, Cape Town had a 45% increase in population. Due to such rapid population growth levels, food insecurity proved to be extremely high in communities such as Philippi, Khayelitsha, and Ocean View. According to the Household Food Insecurity Access Scale (HFIAS), 80% of households were either moderately or severely food insecure (Battersby, 2011). Urban agriculture was a way of alleviating poverty and contributing to consumption of households. Hout Bay Local gardens managed by the schools was a means of providing an education for students. The gardens were designed to provide students with skills such as gardening, responsibility, and the importance of local agriculture for home food security.

The Study of Thrive—Hout Bay Local School and Community Gardens was situated in Hout Bay, a suburban area located on the outskirts of the inner city of Cape Town. Thrive's partnership with local schools formed a trading system within the town of Hout Bay. Up to eleven school and community organic gardens have been producing fruit and vegetables for the past eight years. The objective is to have the leaders of the gardens, also known as Champions, along with the students grow produce and sell it to the farmers market to generate income for their school. Thrive provides the gardeners with compost soil, seedlings, and a market to create incentive to sell the goods. The farmers market will begin in October, at the peak of growing season, and will continue running for six months through the spring and summer seasons. According to Thrive members associated with the gardens, Hout Bay High School—the most successful of all the gardens, contributed 60% of the produce which was sold at the farmers market. In return, the school received R900. However, by the end of the season, only 10% of the produce contributed and sold was by Hout Bay High School.

Data Collection

The Thrive Community granted access to local school and community gardens in order to gather data. There was a series of three visits to Thrive to make contact with the members involved in the Hout Bay Garden Project, along with meetings with the Champions and visits to the gardens. The first visit included a guided tour to each garden and a meeting with Champions who were involved with the School Gardening Projects. The meeting with Thrive staff members involved reviewing survey questions to ensure the questionnaire was in alignment with the objective being researched. Comments and suggestions were used to refine the questionnaire. After review, the questionnaire draft included factors

which could cause the lack of production from the gardens rating them from low significance to high significance. The factors were formed and determined from an outside perspective after touring the gardens.

The second visit included an interview with the Thrive Member (newly) in charge of the Hout Bay School Garden Projects along with the distribution of the questionnaires to the Champions of the eleven gardens. One questionnaire was completed per Champion, who is the primary caretaker of the garden. Out of the eleven gardens available, four gardens were not covered by survey questionnaires due to improper data information or failure to return the survey.

The third visit featured a meeting with Bronwen Lankers-Byrne and Zikhona Mdalase, two members of Thrive, and an in-depth look into the upcoming events and future plans for the gardens and the farmers market. This meeting was followed by an interview with Hout Bay High School's Champion, Naomi Julius, and the success of Hout Bay High School gardens. Naomi stated success of garden production is driven by persistent, enthusiastic learners that have an interest in gardening and learning how to have a sustainable way of having food.

The interviews which took place primary objectives were to gather information from those who are actively involved in the gardening projects. Interviews were conducted both on Thrive members and Champions of the gardens. The aim of the questions were to gain an understanding of issues being faced. The interviewees were also asked to give a personal description as to why the gardens exist and also who the gardens benefit. The interviews gave an inside look of the production, education and passion allocated to the gardens. The questionnaires objective was to gather information by Thrive members and school champions to gather quantitative data. Questions were aimed at factors that could be contributing to the failure of the gardens. Each of the fourteen factors were rated on a scale from 1 to 5 based on their contribution of failure—1 being rated as very low, 5 being rated as very high. Those who filled out the survey were to rate the factors determining their relevance. Qualitative questions were focused on the relationship between the two parties, production area of the gardens, existing crops around the garden, geographical layout, institutional environment, barriers which may impact production, in addition to a few minor descriptors.

Limitations faced during the research were problems with communication with the school champions. We were challenged with clashing schedules, failure to return the data sets, and disregarded surveys because of misinformation. This impacted our data because although we have more than half the garden information recorded, the data set provided is very small. The interviews had largely impacted results.

Results:

Table 1 provides information about factors that could have a possible impact on the production of the Hout Bay Gardens. These factors were influenced by previous knowledge of gardening, research on gardening and agriculture in Western Cape, and interviews of experienced gardeners in the local area. Each factor was rated on a scale from one (low relevance) to five (high relevance) on its significance to the production failure. As shown in Table 1, 100% of those who were interviewed stated that water restrictions are a direct contribution to failure of the community gardens with Very High Significance. According to a publishing by Western Cape Government “As from 1 February 2017, the City of Cape Town has implemented level 3B water restrictions”. The water level in dams have dropped to 20% (African News Agency), which calls for tighter restrictions on water usage and

Table 1:

Impact Factors	Level of Relevance	Factorial impact on Hout Bay School and Community Local Gardens					
		Very Low	Low	Moderate	High	Very High	N/A
Self Consumption		1 (25.0%)	2 (50.0%)	1 (12.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Subsistence		3 (75.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)
Educational		1 (25.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)	2 (50.0%)	0 (0.0%)
Environmental Protection		1 (25.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)	1 (25.0%)	1 (25.0%)
Social		1 (25.0%)	0 (0.0%)	0 (0.0%)	2 (50.0%)	1 (25.0%)	0 (0.0%)
Costumary Use of Land		2 (50.0%)	1 (25.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Research and Development		2 (50.0%)	1 (25.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Animal Grazing		3 (75.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)
Installation		1 (25.0%)	0 (0.0%)	1 (25.0%)	2 (50.0%)	0 (0.0%)	0 (0.0%)
Location		1 (25.0%)	0 (0.0%)	1 (25.0%)	1 (25.0%)	1 (25.0%)	0 (0.0%)
Water Restriction because of the drought		0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (100.0%)	0 (0.0%)
Engagement and interest		0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)	3 (75.0%)	0 (0.0%)
Profit Bring Made		1 (25.0%)	0 (0.0%)	2 (50.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)
Theft		4 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other		0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (50.0%)	2 (50.0%)	0 (0.0%)

Source: Questionnaire created in the research purpose of Food Gardening in Hout Bay—Thrive and Local School Gardens

consumption. That has been the first leading factor in the contribution of the failure of the gardens. Another factor which was commonly noted was the education about gardening and its impact on the community. Of the participants surveyed, 75% stated education impacted production of the garden; 25% saying with High Significance, 50% noted Very High Significance.

In the interview with Thrive members Bronwen Lankers-Byrne and Zikhona Mdalase, they both mentioned that growing knowledge is a key necessity that would help promote the success of gardens. Naomi Julius, Champion of three local gardens--one including the successful Hout Bay High garden, stated “The small amount of students who are interested in the garden show passion and commitment. They receive the education and skills that come along with the gardening and grow to love it”. Julius continued, “It’s the students who are not involved, who suffer through school and do not take it serious are the students I wish would contribute to learn. They are those who need [gardening skills] most”. Education could be a tool to guide student into a healthier lifestyle, create food stability at home, and for some even help increase household income.

To minimize which factors were seen as the largest impact, we condensed the data into a table with the highest rated factors. Table 2 shows the factors that were deemed significant by 75% or higher of the participants surveyed. In connection to education, engagement and interest showed tremendous significance according to the Champions and members of Thrive. It was discussed in the interview with Naomi Julius that students look forward to after school for hanging out and playing sports. Only about nine to eleven students show serious interest in the gardens.

Table 2:

Factors with most prevalent importance

	Moderate	High	Very High	Total above 50%
Educational	0 (0.0%)	1 (25.0%)	2 (50.0%)	75.00%
Social	0 (0.0%)	2 (50.0%)	1 (25.0%)	75%
Location	1 (25.0%)	1 (25.0%)	1 (25.0%)	75%
Water Restriction because of the drought	0 (0.0%)	0 (0.0%)	4 (100%)	100%
Engagement and interest	0 (0.0%)	1 (25.0%)	3 (75.0%)	100%

Table 2 also shows 75% of the participants in the survey note that the social portion of the gardens influence the failure of gardens. The “social” category refers to involvement of outsiders on the gardens such as parents and community members. It is noted in the survey written by Hannah Arrier, the Champion of HBIS Food Garden “More parent involvement perhaps would help the children gain interest”.

The data collected and analyzed gave a base for the research showing which factors could have impacted the gardens during the season. Water restrictions played a major role because Champions were relying solely on rainwater to water their crops due to not wanting to use tap or hose water. Educational factors were also mentioned and discussed by the Champions and members of Thrive. They feel the need to find a different approach to further educate the students already involved along with

getting students in schools to actively get involved. However, in the interview with Naomi Julius, there was a discussion about her gardens and what set the most successful gardens aside from the rest. Hout Bay High has formed a partnership with Thrive--Hout Bay, where they are provided resources and support in order for exchange to sell their produce to the farmers market. The demand enforces supply but the idealism behind it was to create monetary incentive for the students involved. Julius, however, went above expectations for her students and created connections with two other NGOs. Hout Bay High received resources such as 10,000L tanks of water and containers for planting. Further, Hout Bay High gardens are funded by Oceania--as part of the companies social responsibility initiative. Oceania donated R80,000 to the local garden. Naomi also mentioned she connected with the Department of Agriculture and the Department of Education who now will support her with a gardener to help with agricultural activity. With creating a network of connections, the local and community gardens can be introduced to new methods of agricultural success.

Conclusion:

Thrive--Hout Bay had created a mission when they formed a partnership with the local schools. When connecting with the eight schools to create the eleven gardens for their agricultural projects, the idea was to create a mini market exchanged between the students and farmers market. It was to create an environment for students to learn and gain access to knowledge of the importance of local gardening and food security. The gardens, although supplied with proper tools and resources have been not producing a lot of crops. It has been concluded that the main reason behind the failure to create a flourishing garden is the water restrictions set due to low water levels in the dams in Cape Town along with the lack of initiative and education provided to the students in the Hout Bay Region. With further research, it has been concluded more than just resources and incentives provided by Thrive are necessary to create a flourishing garden in the school gardens. With the help of funding and water resources, along with a professional gardener such as the one provided to Hout Bay High School could be a step toward the direction Thrive and their partnered schools need to create agricultural success.

With the data received and information gathered from the conducted interviews, the failure points to education and water restrictions. Lack of data and communication, along with it not being harvesting season has contributed to creating more doors for improvement of the gardens. In the coming weeks, research will include participation in audits of the 11 school and community gardens which will take place on 17 May 2017. Further, 12 May 2017 there will be the opening of one of the gardens held by Hout Bay High where we were invited to meet the students and have a tour of the local gardens to volunteer. With hands on participation, a further conclusion may be formulated for why the community gardens are failing.

Bibliography

Battersby, Jane., 2011. "The State of Urban Food Insecurity in Cape Town." Urban Food Security Series No. 11. Queen's University and AFSUN: Kingston and Cape Town.

ENCA. 2017. Western Cape dam levels at 20. <http://www.enca.com/south-africa/western-cape-dam-levels-at-20>. Tuesday 9 May 2017.

Nugent, R. 2000. "The impact of urban agriculture on the household and local economies." Thematic paper 3 in "Growing cities, growing food" (ed) N. Bakker, 2000

Rogerson, C.M., 1993. "Urban agriculture in South Africa: Policy issues from the international experience." Development Southern Africa, 10(1), pp.33-44.

Thornton, A. 2008. "Beyond the Metropolis: Small Town Case Studies of Urban and Peri-urban Agriculture in South Africa." Urban Forum 19 (3).

Thrive Hout Bay 2016, Cape Town, accessed 10 May 2017, <<http://www.thrive.org.za>>

World Population Review 2017, Cape Town, accessed 10 May 2017, <<http://worldpopulationreview.com/world-cities/cape-town-population>>