Growing or connecting? An urban food garden in Johannesburg

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SUMMARY
Issues of food security are of particular importance in urban areas in Africa and government policy advises on the household growing of vegetables for nutrition. The Siyakhana project is a food garden in the centre of Johannesburg which was established by a University Health Promotion Unit with the support of other stakeholders including the City authorities and a permaculture organization. It was set up with the objective of providing food for children attending early-childhood development centres and for the beneficiaries of non-governmental organizations providing home-based care for people living with HIV/AIDS. One year after start-up, an evaluation was conducted, based on the measures of outcome identified as significant by those involved in the project. Its impact on health is not yet measurable, but as the amounts of fruits and vegetables available and consumed in South Africa are low compared with WHO recommendations, it is a useful addition to food security in an urban area. Mobilizing around the food garden supported bonding among homogenous but separate third-sector organizations, through increased opportunities for networking which built trust, reciprocity and resource exchange. The project also provides a model for a community–university partnership providing opportunities for service learning by students and for social investment by the university.

Key words: food gardens; urban health; food security; South Africa

INTRODUCTION
Food security is a critical development issue in South Africa which is currently experiencing unprecedented urbanization but also, in common with other African countries, a food crisis brought on by soaring prices and reduced yields from rain-fed agriculture. South Africa has the highest rates of HIV/AIDS in the world and this has had a devastating effect on both nutritional status and food security (de Klerk et al., 2004). Malnutrition and HIV/AIDS are closely interlinked disorders as both can cause or contribute to severe immune suppression (Anabwani and Navario, 2005). The impact of HIV/AIDS is also felt across households’ food security mechanisms where those affected are unable to work to gain income, grow food and family support networks are most stretched by the presence of sick relatives and orphans.

Urban food gardens are increasingly common around the world in high-income countries but less so in low-income countries. Access to land with secure tenure and access to a water supply pose problems and the financial returns generated by gardening are typically minimal. The high level of pressure on urban space due to urbanization and housing shortages tends to mean that urban agriculture often takes place on marginal land (de Zeeuw et al., 1999; Drescher, 1999; Windberg, 2001). The very same pressures mean that vacant land in low-income countries is typically used to build shacks which can be rented out with greater
profit. For some of these reasons, there has been little policy support for it in South Africa. The guidelines for food security for individuals and communities in the South African context focus on food fortification, food transfer programmes such as school feeding programmes and rural home-based gardens and the establishment of gardens attached to clinics and schools. The latter are supposed not only to provide food, but also to have a demonstration effect and wherever possible, income-generating potential (Department of Agriculture, 2002). The limited support for food gardens may also be due to the weak evidence of their impact on nutrition (Karann and Mohamed, 1998; Webb, 2000), although Faber et al. (Faber et al., 2002) report increased vitamin A intake in children as a result of a home-based food production programme in a rural area of KwaZulu-Natal.

Preliminary findings of a survey on urban food security in Johannesburg conducted in 2008 (PUFS, 2009) indicate that urban food gardens play a very minor role in addressing food insecurity among the urban poor in this city—less than 3% of people interviewed in the PUFS survey indicated that they consume food that they themselves have grown. Food production and distribution is almost totally controlled by the formal economy despite a recent Food Summit in Gauteng calling for communities to produce food for themselves (Gauteng Provincial Government, 2008) and recognition of urban assets in municipal land, existing agricultural skills and community networks (Austin and Visser, 2002).

In high-income countries where most of the evidence on community gardens has been gathered, a number of broad health and social benefits are attributed to urban gardens including improved nutrition and greater physical activity (Armstrong, 2000; Twiss et al., 2003; Wakefield et al., 2007) but principally in relation to the mutual aid and collective nature of the activity (Ferris et al., 2001). Self-worth and empowerment arise from participants’ involvement in the shared act of gardening and other activities related to the establishment and operation of gardening projects (Glover et al., 2005).

Holland (Holland, 2004) suggests that community gardens also act as agents of change:

(i) through the promotion of physical and ecological sustainability by food growing;
(ii) through social stability by communal interaction;
(iii) through economic sustainability by use of gardens for training, research and skills development.

Community gardens may be more about community than they are about gardening. They offer places where people can gather, network and identify together as residents of a neighbourhood or community. Kingsley and Townsend (Kingsley and Townsend, 2006) explore the concept of social capital within the context of an urban community garden in order to understand the significance of these kinds of social connections. In a study of an Australian urban community garden, they concluded that membership was associated with increased levels of social capital, highlighted by members describing social support, connections and networking, as well as responses which highlighted forms of cooperation, bonding and bridging social capital seen as critical in achieving high levels of social capital. Similarly, in an American study, Glover (Glover, 2004) found that a community garden could be both a consequence and source of social capital. As a consequence, it was the end product of a persistent network of individuals who formed a garden network committed to its development. As a source of social capital, it strengthened social ties and facilitated further social connections among neighbours, which in some cases led to socializing that extended beyond the garden and encouraged residents to watch out for one another. Hancock (Hancock, 2001, p. 279) suggests that community gardens contribute to four types of capital: human, natural, economic and social, because they are ‘created and managed by the community itself and depend upon a cohesive social network to organize and manage the gardens’.

This paper explores the potential of an urban food garden to improving food security in South Africa in ways that are socially, economically and environmentally sustainable based on the local control and broad participation.

**BACKGROUND**

The Siyakhana project is an urban food garden in the middle of Johannesburg started in 2006. It was conceived by the University of Witwatersrand Health Promotion Unit (Wits HPU) whose studies with early-childhood
development centres (ECDCs) and home-based care organizations had identified poor nutrition, specifically diets incorporating limited amounts of fruits and vegetables.

The aims of the project are to provide vegetables and herbs for beneficiaries; empower the participants through education and training; create income generating opportunities; provide a model for replication for community gardens and the adoption of permaculture principles and organic methods.

The project comprises nine small non-governmental organizations (NGOs) who provide pre-school crèches known as ECDCs or care and support to people living with HIV/AIDS (PLWHA) and those affected by the illness. Initially, there were 16 such organizations but 7 dropped out during the second year of the project for reasons that included lack of funding, unhappiness with the management of the project and in-fighting. The nine organizations are represented by a Director of the NGO or Principal of the ECDC. These participants are all black, female and from /C24 to 68 years of age. All the organizations are located within the inner city of Johannesburg (now called region F in Joburg Metro) ~1–2 km from each other and ~2–3 km from the garden. The NGO workers live in various different townships around the city and commute to their places of work every day, in some cases more than 20 km away.

The project was given a plot of land of slightly less than a hectare by Johannesburg City Parks in 2006 with the objective of growing fruits and vegetables for the beneficiaries of their care and developing their own capacity for sustainable and healthy eating habits and income generation. The land was fenced with materials donated by steel company which together with gardeners living on site has been a deterrent to the theft that characterizes other community gardens (de Klerk et al., 2004). Twenty-two participants from the 16 organizations were given training by Food and Trees for Africa in soil preparation, organic planting methods and nutrition. The training took place over 18 months comprising 24 sessions and 10 completed the course and received certificates.

In the first year, participants from each project provided 2–3 h of labour per week in the garden and each organization contributed about R100 (~7 pound sterling) per month to its development and upkeep. Ten of the original 16 organizations contributed but not every organization managed this each month. In the second year, a garden manager was employed for developing the garden and maintaining its daily operation and providing a security role by living on site. The volunteer labour and financial contribution by project participants significantly dropped after a year. Now in its third year, the garden operates as a small enterprise growing over 30 varieties of vegetables, cropping from a small orchard, cultiving herbs for making organic salts, creams and for medicinal purposes. A nursery provides an ongoing supply of seedlings. Project participants are able to crop and collect produce and some surplus is sold at the garden to local people using the park. As part of the university’s community activities and the development of social entrepreneurs, it acts as a demonstration project for sustainable agriculture and small-scale food production and as a site for community service by students. Many university departments use the project for applied research projects: urban food security, soil fertility and chemical analysis, the design of an irrigation pump operated by an exercise rower, the development of an eco-cooling system for produce, the design and building of shelters from natural materials and the development of a still to extract oil from herbs and medicinal plants.

METHODOLOGY

The intention of the project evaluation was not to impose an evaluation strategy, but to contribute to consensus building among the NGOs and stakeholders about the selection of indicators of success. The project had not arisen from a participatory needs assessment and local decision-making about what might assist in meeting the needs identified and the hope was for a participatory evaluation (Carr et al., 2008). A central component of the evaluation was that the participants would describe and produce the evidence for the project’s success or otherwise.

A workshop was held which included project stakeholders (Food and Trees for Africa—the leading urban greening NGO in South Africa and who provided funding and training); Johannesburg City Parks (who allocated almost a hectare of land and subsequently entered into a lease agreement with the university) and
project participants from ECDCs, the NGOs and the University of Witwatersrand. The aim of this workshop was to develop with the group the ideas about what should be investigated as part of the evaluation. They agreed on a narrative evaluation through the telling of the ‘story’ of the project (their involvement; the project set up and its impact on them and the difference it had made to them personally; and their organization). Stories and narrative accounts were then elicited using these themes from 19 participants including Food and Trees for Africa; City Parks; University of Witwatersrand Health Promotion Unit and Community University Partnerships (CUPs); participants from five ECDCs and four NGOs providing home-based care; two gardeners at the garden and four students who worked in the garden as part of a service learning initiative run by the University.

All interviews were tape recorded, with permission from the interviewees, and all were conducted in English except for the interview with one of the project gardeners, where the other gardener acted as interpreter. The guided interviews were transcribed verbatim and analysed by one of the researchers. The approach adopted for data analysis is based on treating the text as a window into, or proxy for, human experience (Ryan and Bernard, 2003), where interest lies in using the interview to obtain and understand data about the research topic.

After all the interviews were conducted, a further discussion group was held for participants to share their experience of being involved in the evaluation, discuss the results and ideas about how the results should be disseminated. In the event, only four project participant representatives attended this workshop, together with a representative from Wits HPU, and it proved difficult to obtain detailed feedback about the evaluation process.

**FINDINGS**

The Siyakhana Food Garden project was set up to provide food and to be a capacity building initiative. Although the amount of produce/food output of the garden was not quantified, project participants felt that the Siyakhana project had had a beneficial impact on health. At one level, this was felt to be a very immediate gain for the women themselves: they had learnt about herbs which could be used for minor ailments and obtaining them from the garden, with usage instructions, had enabled them to self-care for coughs, colds, high blood pressure, worry and stress, stomach upsets and other day-to-day conditions.

Vegetables were otherwise only locally available at supermarkets, pre-packed and relatively expensive, so alternative access to the garden produce was beneficial. The project participants had distributed some vegetables to the children and PLWHAs which they supported and felt that they had made an important different to people’s health:

...and then, also that food that we are planting there, it helps our people, because they need to take medication so it helps them, and even those who are not taking medication…. They need to eat, so we get food that is very healthy, it’s organic food. [Participant 1]

Project participants also felt that they had gained from the skills development and training courses which had been offered by Food and Trees for Africa. Although not often able to put these directly into practice, because of limited access to garden plots, the women reported increased self-confidence and felt they knew more about gardening activities and the related health benefits. For one project participant, this meant a feeling of re-connection with rural life and small-scale cultivation which she had lost touch within the urban context in which she lived now:

Inside of me I was happy because I was born in a place where we used to plough to grow things, but when I was still young I didn’t like to do that work, but I don’t know what has happened to me, as soon as I went to that place [the garden] something grew inside of me, that this is the time for me to work…. I saw myself in another level, because I remember I used to sit there, to be alone, looking at the place and I came back to my centre and I tell the people, I even tell my family, after I’ve finished everything here, I have to go back to where I’m coming from…. After I learn everything here I’m going back. [Participant 2]

In the accounts of the setting up of the project and its challenges, key themes emerged as to the nature of community involvement. Project participants portrayed a commitment to community and activism:
I am a community person, my life is rooted in the community and I always want to know what is happening in my community, so that inspires you to want to do this for the people... it's a commitment which you have in the community. [Participant 3]

But whatever I’m doing, I can’t be doing enough for the people. I can’t, but if ever I’m doing this little bit, those few souls are getting an extension to their health, that’s fine. [Participant 4]

The project was envisaged at the outset as a community development project, but stakeholder funders were concerned at the extent to which the project was led by the University who had devised its original business plan and sought the project funding:

Community development is made or broken by the community themselves. Successful projects all have in common a dynamic, motivated community member or members to lead the project...one of the things we decided very early on as an organisation was only to work in response to actual community requests for projects and every time, 100% of the times when we receive a request from another organisation on behalf of the community - those projects have not been successful. [Stakeholder funder]

None of the organizations involved with Siyakhana has access to reserves of financial and human resources, and they have struggled with making a tangible commitment to the project, in respect of direct work in the garden, funding and management capacity. So despite seeing a common purpose in the garden, skills and support have not been transferable given the logistical problems involved:

So many times, I feel I don’t know what is happening there at the garden and then because we didn’t have funds there and didn’t go every day because of our centres.... [Participant 5]

Dislocation, distance and the need for transport is a defining feature of the project—the participant NGOs themselves are distributed in various locations, some of the NGO members work 2–3 km from the garden and commute to these sites from their homes, some of which are 20 km or more from their places of work. The issue of transport is central to participation in socioeconomic activities in Johannesburg and has made difficult the regular participation of NGO members in the gardens. Stakeholders were also aware that the geographical location of the garden limited its development:

Even though it’s a community garden, it does not serve the community around it, they are not involved, so therefore you are literally exporting labour from other areas. Other gardens are like in a community where people would walk any time any day just to go over and water or do any other things... [Stakeholder]

Engaging with the project has had considerable benefits particularly for the ECDCs through the brokerage between Wits HPU and other donor organizations. In one case, the input resulted in the pre-school becoming registered for the first time in 10 years of functioning, followed by a commitment from the municipality to move the crèche from its inappropriate premises to a larger and more secure space in a disused, renovated beer hall, a second ECDC received toys and all the current organizations were given 25 l cooking pots. An unintended consequence, but very important in respect of capacity building, has been the extent to which project participants have been able to network among themselves and gain mutual learning about the management of their existing organizations. Respondents reported that being in touch with each through the garden activities had led to sharing information about difficult situations which they faced (e.g. how to make arrangements for an HIV/AIDS positive person who died at home) and about new methods of working (e.g. understanding that the best way to assist children with HIV/AIDS in the pre-school situation was to introduce procedures that would support all children as if they were HIV/AIDS positive rather than identifying any individual child as such).

This networking, this Siyakhana helps us to know what to do...

I have learnt much, I have learnt about networking... when we are at the project, as organisations, we speak, I find out what you are doing at your organisation, when I come to think, I find out I’m not doing that and I’ll go and try what you are doing at your project and then I see if it’s successful, I get the point of what you’re doing.... [before] I was just sitting in my community and looking after those children and if I’ve got nothing, I’ve got nothing, sometimes I close, it was not really a pre-school but since this year I have improved a lot. [Participant 6]

**DISCUSSION**

Hancock (Hancock, 2001) has suggested that gardening projects contribute to stakeholder
and community capacity by building capital across different domains: social capital, natural capital, economic capital and human capital. Two added dimensions which the (urban) community garden appears to bring is the development of networking and capacity building around a local amenity which also supports biophilia: humans’ innate connectedness and attraction to nature and places in the natural world (Maller et al., 2004; Kingsley and Townsend, 2006). In addition, the Siyakhana garden produces intellectual capital from the wide range of university departments involved in using the garden as a site for learning. Table 1 summarizes the contribution of the Siyakhana project across these five domains.

In contrast to community gardens in high-income countries, where the garden is the site for social interaction and the building of social and human capital (McGlone et al., 1999; Armstrong, 2000; Holland, 2004), the physical location of the Siyakhana garden on the periphery of the inner city makes it difficult for participants to meet and socialize. Apartheid had enforced the geographical segregation of different racial groups which underlies the spatial dislocation of people from their places of work, commerce and residence. This fundamental problem of Johannesburg’s spatial organization is reflected in the problems of transport and accessibility experienced by the participants of the Siyakhana project. There is no community in the geographic sense, in the sense of a common history or mother tongue. There is a loose and diverse constellation of interest groups and individuals with different cultures, personal histories, interests and agendas which converge and are sometimes contested in the arena of the Siyakhana project.

Nevertheless, social and human capitals have been built at Siyakhana through a commonality of interest in providing support to children and PLWHA across the inner city. Community here is defined as a particular type of social bond characterized by a sense of mutuality, care, connection, identity, awareness and obligation to others (Boyes-Watson, 2005). This bond, in turn, motivates certain behaviours. Notions of community of interest are not discussed in other studies of community food gardens, but offer a framework for understanding the cohesion and networking around gardens which are not located in traditionally conceptualized ‘community’ sites.

Bonding social capital in respect of support, connections and co-operation already existed among the various organizations that make up the Siyakhana Food Garden project. The legacy of apartheid forced people in both urban and rural South Africa to adopt survival strategies in the face of poverty, marginalization and lack of external support for community development (Greenberg, 2006). Resistance took many forms and included the establishment of organizations such as those involved in the Siyakhana project. Sitas (Sitas, 2002) uses the concept of ubuntu, a South African term for humanity, caring, sharing and being in harmony with all creation, to understand how social capital has been developed and been sustained at the local level.

<table>
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<tr>
<th>Type of capital</th>
<th>Siyakhana project</th>
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<tr>
<td>Human capital and intellectual</td>
<td>Learning about permaculture and organic gardening for project participants&lt;br&gt;Site of service learning for students&lt;br&gt;Learning about the use of herbs for medicinal purposes&lt;br&gt;Learning about nutrition and good cooking practices&lt;br&gt;Fresh food provided for PLWHA and ECDCs&lt;br&gt;Research and teaching</td>
</tr>
<tr>
<td>Natural capital</td>
<td>Reclaimed area of urban city park&lt;br&gt;Organically grown produce&lt;br&gt;Composting</td>
</tr>
<tr>
<td>Economic capital</td>
<td>Conduit for funds and resources into existing NGOs and ECDCs serving the community&lt;br&gt;Employment for gardeners&lt;br&gt;Potential for income generation from garden produce</td>
</tr>
<tr>
<td>Social capital</td>
<td>Bringing together existing organizations to participate in garden project&lt;br&gt;Building social networks around NGO and ECDC work&lt;br&gt;Building networks of students involved with the garden</td>
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He describes 'ubuntu formations' as networks based on self-reliance through others and discusses how these formations, in urban South Africa, support collective and group-based agencies to mobilize and get mobilized over 'ills', vulnerabilities, disasters and needs. Although this may be seen as a form of cultural nationalism and nation-building that glosses over differences of interest in favour of conformity (Marx, 2002), this particularly South African form of social capital seems to offer explanations for the importance of the food garden for its participants.

Siyakhana is a source of intellectual capital in the form of skills development and networking for project participants and stakeholders, including garden staff and representatives of the NGOs and ECDCs. Despite the Reconstruction and Development Programme of the newly democratic South Africa in 1994 placing high priority on social mobilization and empowerment, a frequent observation throughout this evaluation was the very limited funding which is available to the small NGOs and ECDCs doing this work at community level. Invisible to international donor agencies and inadequately supported by funding from health- or social-care resources, these organizations operate on very short planning timeframes and have limited capacity to develop new project activities (Centre for Health Policy, 2004). The University Health Promotion Unit (Wits HPU) has had a clear role linking Siyakhana participants to other networks, government departments and attracting resources. Bridgen (Bridgen, 2004) highlights the importance of bridging capital that provides connections (to broader social networks) and linking social connections (to social institutions). The capital accrued by the food garden participants (networks, resources, learning) has however been to their separate organizations—where they can control and manage their use—rather than the garden project itself.

Successful community gardens ensure the involvement of community members as active participants and equal partners whose concerns and experience are intrinsic to the project’s success (McGlone et al., 1999; Holland, 2004). The Siyakhana project illustrates some of the challenges of community development work: ownership, co-ordination and clear benefits. The available university resources with respect to networks, organizational skills and, to some extent labour, together with its emphasis on performance and stakeholder accountability led to it assuming project leadership and co-ordination. Whereas other studies have shown that the social capital attributed to garden projects is attached to place and the site for interaction, the logistical problems of getting to the Siyakhana garden together with the long-term commitment required before it could yield produce, quickly reduced commitment.

CONCLUSIONS

Food insecurity related to poverty, low intakes of fruits and vegetables and low intakes of energy and micronutrients is widespread in South Africa. The evaluation could not reveal the impact of the garden on community food supply, access and intake, and other studies have also called for quantitative assessments of the contribution of gardens to public health (Wakefield et al., 2007). The diversity and volume of produce at the Siyakhana project is now quantified but not costed in terms of the variety of inputs of labour, seedlings and ground clearance. The nutritional impact of garden projects has seldom been measured, partly because of the small amounts of produce initially harvested but more importantly because it is so difficult to do (Maunder and Meaker, 2007). The influence of gardens on the nutritional status of household members is affected by many factors including quantity and quality of garden nutrient production, availability of nutrients in garden produce, storage and processing, food distribution and existing diet. In the absence of adequate social programmes, the Siyakhana garden supports the NGOs to address some of the important nutritional problems for PLWHA: protein/energy undernutrition of infants and children, vitamin A deficiency and anaemia resulting from lack of iron and vitamin C.

Unlike many urban food gardens which are characterized by the use of marginal spaces, discontinuities in participant involvement and frequent neglect or abandonment (Jolly, 1999), the Siyakhana project has managed to secure land and water and develop continuously drawing upon indigenous knowledge of permaculture and natural growing methods, and local participation. The Siyakhana project is an example of an urban food garden whose purpose is the
production of food, rather than a community garden where social interaction is of equal importance. This paper nevertheless adds to the findings of other studies (in high-income countries) suggesting that the social capital developed in the urban food garden is both bonding and bridging but is not located in the garden itself. The project also provides capital across economic, intellectual and human domains (Hancock, 2001; Holland, 2004) offering a model for a public–university partnership providing opportunities for service learning by students and for social investment by the university.

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