Soil management for resource-constrained urban agriculture: An ABCD approach in Cape Town

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ABSTRACT

Maintaining soil health is essential for urban agriculture, as space in urban centres is limited. This challenge is exacerbated by resource limitations when urban agriculture is used for promoting sustainable livelihoods. This study assessed the appropriateness of the Asset-Based Community Development (ABCD) model for addressing soil management issues of economically marginalised urban farmers. The study is structured as a case-study, using purposive selection of exemplary cases of urban agriculture in Cape Town and in-depth interviews with key informants. The findings indicate that good practice for soil management in this area includes agro-ecological methods drawing on locally sourced biodegradable waste products. Key aspects of the methods applied in this case include: digging a trench bed one meter wide; using organic waste to refill the bed as well as to compost; mulching; zero-tillage; intercropping and crop rotation. These methods are taught by four local non-governmental organisations. The present study demonstrates the usefulness of the ABCD approach for analysing urban agriculture studies, and in so doing contributes to a limited body of literature on this subject. While the case study methodology results in findings that are not statistically representative of the broader population, the lessons learned from this study may be usefully interpreted for other contexts, provided that such an application is informed by an adequate understanding of the local context to which it may be applied.

Keywords: Cape Town, urban agriculture, soil fertility, resource-poor farmers, asset-based community development, soil health

Introduction

Accessing land of sufficient size and soil quality is a characteristic challenge for urban farmers, as plots in urban areas tend to be far smaller, and far more valuable than in rural areas (Opitz *et al.*, 2016). The mainstream agro-industrial model of rural agriculture seeks to maximise economic efficiency through economies of scale, as well as through conformity with the agro-industrial regimes, of which important features are petrochemical-based inputs, loans, tax-breaks and subsidies (Wiskerke and van der Ploeg, 2002). Urban farming, however, tends to be unable to compete on these terms, not only because of the limited scales of production, relating to limited land size and value, but also because of a lack of formal systems to support it (Opitz *et al.*, 2016).

Scholarly research tends to portray urban agriculture in the northern hemisphere as contributing to social cohesion, and in the Global South as facilitating food security (Battersby and Marshak, 2013). However, socio-economically marginalised urban farmers in Africa derive the least food-security and economic benefits from urban farming (Frayne *et al.*, 2016); thus, it appears unlikely that urban agriculture can empower people without it being supported by an institution, whether a governmental or non-profit organisation (NPO) (Olivier, 2019). In Cape Town, public support for urban agriculture tends to be modelled on the extension service models rolled out for rural agro-industrial agriculture (City of Cape Town, 2007). Nevertheless, an alternative model is presented by which NPOs train

urban farmers in agro-ecological farming, which strives to harness natural goods and services through mimicking the natural processes that promote soil health, namely using organic matter for inputs, mulching and zero-tillage. Based on a central tenet of providing low-income individuals with access to healthy food at no financial cost, the NPOs in question provide the basic inputs for start-up, and ongoing extension support. Nevertheless, reflecting principles of sustainable development, these NPOs aim to reduce their beneficiaries' dependency on these services over time by encouraging urban farmers to prioritise the sourcing of freely available organic waste in their surroundings. It is possible for farmers using this model to require no additional financial inputs after start-up (Olivier, 2018).

The principles of reduced dependency and prioritising the use of local resources coincides with the Asset-Based Community Development (ABCD) framework. ABCD is a conceptual framework that bases community development on locally-sourced assets, rather than grants or donations from outside the community (Martin *et al.*, 2004). Examples of such assets include the passions or skills of individuals; vacant or underutilised plots; waste materials; natural bodies of water; climate; and local networks and relationships. By basing development on local assets, the ABCD strives to address the problem of dependency that external support tends to create and which undermines the sustainability of the development process (Mathie and Cunningham, 2002). Nevertheless, some intervention is necessary to overcome some of the key causal factors constraining people from accessing the resources around them, or from developing their own capabilities (Kretzmann and McKnight, 2005). Such is seen in case studies on ABCD urban agriculture projects, as happens in Cagayan de Oro in the southern Philippines, where local government and universities initiated the process (Holmer and Mercado, 2007). In Cape Town, NGOs have played this role (Olivier, 2018).

Considering the longevity of urban agriculture in Cape Town (Eberhard, 1989), it is reasonable to assume that some lessons may be drawn for good practice in soil management. The problem this paper seeks to address is, what lessons on soil management may be drawn from Cape Town's case for promoting urban agriculture that seeks to benefit economically marginalised people? In this paper, this question will be addressed primarily through relating to the farmers' own perspectives on this issue. To this end, the paper begins with a description of the context for the case study, as well as the qualitative research methods that were used. The findings are related thereafter, which provide a breadth of description of aspects of soil management, as well as qualitative depth within each aspect. The discussion compares the farmers' responses on these issues to the leading perspectives in the scholarly literature, and the synthesis of these perspectives is reported as concluding insights, lessons learned and how these lessons should be interpreted for application in the broader context of urban agriculture for community development.

Methods

Geography of the area

The Cape Flats lies on the southern portion of a sandy plain between the Table Mountain range along the southwest coast and the hills of Durbanville to the northeast, in the City of Cape Town Municipality, South Africa (Brodie, 2015). Notwithstanding that a portion of this land currently called Browns Farm has been used for horticulture since colonial times (Battersby-Lennard and Haysom, 2012), the Cape Flats in general, and the lowest-income residential areas within it, have the poorest soil quality in the municipality (Geyer *et al.*, 2011). The highly alkaline soil (96% sand) (Fermont *et al.*, 1998) is further depleted by the excessive illegal dumping and burying of general and construction waste from the intensive construction of high-density housing and informal settlements, which have all but eliminated natural ecosystems from the area (Geyer *et al.*, 2011). Nevertheless, the climate is conducive to year-round horticulture, as is the presence of groundwater (Adelana *et al.*, 2010).

Socio-economic characteristics of the population

The Cape Flats consists primarily of informal dwellings, government-subsidised housing estates and low-income residential areas (Brodie 2015; Adelana *et al.*, 2010). The area has an unemployment rate of 29%, and is infamous for high levels of gangsterism and crime, alcohol and drug abuse, theft and domestic violence (Chetty, 2015). As a

residential area constructed by apartheid, it continues to receive suboptimal service delivery and utilise poor-quality infrastructure (Adelana *et al.*, 2010; Brodie, 2015). Many of those living on the Cape Flats have strong familial connections with the Eastern Cape province of South Africa, to which they travel, particularly for major holidays, and to which they send provisions for the family members who remain there (Battersby, 2011).

Challenges to empirical research in an informal context

This study selected a case-study design, using primarily in-depth face-to-face interviews and focus groups, supplemented with field notes and grey literature. A case study method of this nature was chosen as the most appropriate for this study because of the complexities of how urban agriculture is structured in Cape Town. The empirical research had to be designed from scratch, using exploratory research techniques and relying on data saturation to ensure representivity.

Designing the empirical research commenced with delineating the population frame, as there was no list of urban farmers in Cape Town at the time the research was conducted. The researcher chose to assume that the vast majority of urban farmers would be affiliated with an NPO or with extension support from the City of Cape Town, as desktop research had established that rural agricultural methods are not successful in the area. Partial lists of NPOs practicing urban agriculture existed, such as procurement notices by the City of Cape Town for the delivery of implements and agricultural inputs, published online; the attendance register for the City of Cape Town Urban Agriculture Summit; the membership database belonging to one major NPO in the city; and the Republic of South Africa Registered NPOs in the Western Cape database (hereinafter, 'Registered NPO database'). No additional lists were forthcoming. The researcher then synthesised the lists of all of the NPOs affiliated with urban agriculture, and cross-referenced this synthesis with the Registered NPO database. This created the first comprehensive list of registered NPOs affiliated with urban agriculture. As the vast majority of the names obtained came from private lists and were provided to the researcher on the proviso that they were not to be published, the complete list is not publically available.

The newly formed list of registered NPOs involved in urban agriculture in the Western Cape held the names of 134 NPOs. Thereafter followed a whittling-down process, whereby the NPOs on the list were looked up online or phoned, to establish how much urban agriculture featured in their programmes. By these means, it was established that the overwhelming majority only had a horticulture plot on their premises (as a recreational activity or to supplement the meals they prepared). Only four actually *promoted* urban agriculture in Cape Town by training urban farmers and providing ongoing extension support to those whom they trained. The researcher assumed that no individual affiliated with an NPO would be practicing urban agriculture without having had training and extension support from at least one of these four core NPOs.

The four NPOs training and supporting urban agriculture in Cape Town at the time of research were Inity, the Sozo Foundation, Soil for Life and Abalimi. The researcher then arranged visits to these NPOs to meet a key informant, such as a director or manager. The interviews with these key informants laid the foundation for this empirical research, as they provided a broad understanding of how these NPOs operated and how they won the support of these individuals, as gatekeepers to the considerably sizeable population of urban farmers affiliated with their organisation (namely 6563 individuals).

Sampling

The population frame of 6563 urban farmers was treated as a whole, rather than designating which farmers were affiliated to which NPO. This was possible because by that time, it had been established that all of the NPOs taught the same agro-ecological methods.

Traditional simple random sampling from the population frame proved impossible because of the number of unmapped roads and lack of road names in the study

area. Thus, snowball sampling was utilised, beginning with attending urban farmers' meetings and sitting at the NPOs' 'garden centres' requesting interviews from customers (Patton, 2002). During these interviews, the researcher requested referrals to other urban farmers from interviewees and from NGO representatives. The researcher employed the services of a local guide, who was himself an urban farmer, who helped to navigate the area, overcome language difficulties and introduce the researcher to potential interviewees. The only exclusion criterion was that the farmers could not be children (under 18 years of age), for ethical reasons. Otherwise, all willing urban farmers actively farming at the time of being interviewed were included.

Data were gathered until data saturation, indicating sampling sufficiency, namely: no new discussion themes emerged; no new information was forthcoming on existing themes; and the socio-demographic trends of the sample reflected those of the broader population. Using data saturation is a standard practice for indicating sampling sufficiency in qualitative research (Patton, 2002).

At the point of data saturation, the interviewer had selected 59 urban farmers. Of these, 74% were over the age of 40; 60% were female; and 85% were of Xhosa ethnicity. Although no population profile of urban farmers in Cape Town exists, this distribution of characteristics appears representative of the population frame, according to existing research (Tembo and Louw, 2013).

Data gathering, capturing and coding

Interviews with the urban farmers took place from March to August 2014. Individual, face-to-face interviews were conducted with 34 of the urban farmers, and the remainder consisted of four focus groups: two mixed-gender groups, one all-male group and one all-female group. All interviews and focus groups were voice recorded and transcribed.

Transcriptions from the interviews were made in Microsoft Word format. The "code and retrieve" method was adopted (Willis, 2007) to code and group data according to themes on soil management, as reflected in the subsections of the following Results section.

Results

Origins of soil management methods

Of the four NPOs in this study, Abalimi had the longest history in Cape Town, beginning in 1982 when it was established by the then Catholic Welfare Bureau. Soil for Life, established in 2003, was the second oldest. The directors of both of these NPOs gained their agro-ecological expertise independently. Abalimi's methods originate from training that two of the founding members received in horticulture and biodynamic farming in America and England, respectively. Soil for Life's methods originate from the training that a founding member received in permaculture. Over time, both of the NPOs adapted these methods into a curriculum for individuals with low levels of formal education, low literacy and constrained resources. The other two NPOs in this study, Inity and the Sozo Foundation, were trained by Abalimi and Soil for Life, respectively, and copy their methods exactly. Thus, the methods that are taught by all four of the NPOs in this study are so similar that the descriptions reported in this section are generalisable to all four of the NPOs.

The NPOs' 'garden centres'

One of the most important characteristics shared by each of the NPOs in this study is that they all had at least one 'garden centre' located within the neighbourhood they focus on for recruiting, training and supporting urban farmers. Abalimi, Soil for Life and the Sozo Foundation had two garden centres each. Every garden centre had some basic characteristics: a demonstration plot, where vegetables are grown all year-round using the methods that the NPO teaches; a seedling nursery; a drop-in consultation service for free advice; and storage for tools and inputs. In terms of support for the membership base, the garden centres were invaluable as they operate as a social 'hub', where local urban farmers can purchase inputs at subsidised rates; see a successful application of the methods they were taught, in context; and receive advice from a professional, local urban farmer who was employed by the NPO to run the garden centre.

An overview of the training method

Although the focus of the present study is on soil management, it is necessary to provide an overview of the training methods used by the NPOs in question in order to provide some context for the results that follow. Furthermore, the focus of the training methods is primarily on promoting soil health, as reflected in Soil for Life's name. To generate interest in their urban agriculture training course, these NPOs either canvas door-to-door within neighbourhoods or conduct a promotional presentation at a community event. Alternatively, urban farmers may approach an 'official' at one of the garden centres, where they may sign up for training. The NPOs group the applicants according to their proximity to each other, as one of the efforts to ensure sustainability includes mutual support between neighbourhood urban farmers after the completion of training.

The training course typically takes place one day per week for the duration of seven weeks (Soil for Life 2017). An NPO-authorised trainer conducts the training on the properties of the applicants. Each training episode includes the practical application of the lesson, and the rest of the group are expected to implement what they learned, on their own properties, before the next training session. Each training session is hosted on a different trainee's property, so that by the end of the training course, each trainee should have received hands-on training and advice on their own property at least once.

Following the completion of the course, every trainee would have an established vegetable garden and a seedling nursery. Follow-up extension support includes training on how to harvest and store seeds and how to transplant the seedlings for the next season's crop. The expectation is that over time, the group members will support each other, thereby reducing demand on extension support. To encourage such mutual support, the NPOs donate the tools that were used for training to the group, with the expectation that the group share them among their members. A group member who needs expert advice may drop-in at the nearest NPO garden centre.

Land size and characteristics

Land is a highly limited resource, according to the urban farmers. Therefore, most simply use the small tract of land around their domicile, and are called "home gardeners" or "home farmers". Such farmers are taught to prepare a plot $2m^2$ in size, but with experience and enthusiasm, they may expand their cultivated area throughout the small property.

Some of the urban farmers managed to obtain land through agreements with state departments or local organisations. Many, however, found the process too complicated, slow and frustrating, and simply gave up. Thus, it was common for the urban farmers to draw up an informal arrangement for the use of land belonging to a faith-based organisation, civil society organisation, crèche, local school or clinic. Usually, in such cases, the agreement is to donate a portion of the harvest for the meals prepared by the organisation for their beneficiaries. Unsanctioned occupation of land for cultivation appears rare, most probably because of the risks associated with the loss of the investment made in fertilizing and working the land, as well as the loss of the growing crops, following eviction. Nevertheless, at least one of the current formal groups began by illegally occupying power line servitude land, but received formal permission to continue cultivating that land, as well as donations in kind, from the City of Cape Town municipality.

Tools, implements and infrastructure

The vast majority of urban farmers require only the most basic implements, due to the small size of the plot they cultivate. Thus, the NPOs, following the training course, make a once-off donation of spades, garden forks and wheelbarrows to the group.

The NPOs teach urban farmers to utilise the waste materials readily available in the neighbourhood due to littering and illegal dumping: for example, scrap timber, tyres and cool drink bottles were typically used for landscaping, bordering and terracing. Cultivation groups are eligible to receive such infrastructure as shipping containers for on-site storage, the installation of perimeter fencing, well point or borehole drilling and

electric water pumps from the City of Cape Town. One group also had agricultural tunnels on their property.

Trench-bedding, sheet mulching and container-planting

The soil quality encountered in the areas of the Cape Flats in which these NPOs operate is characteristically too depleted and polluted to be serviceable through the application of fertilizers. In order to prepare their soil for cultivation, the urban farmers typically have to remove quantities of rubbish and building rubble from the soil. They are also required to dig considerable volumes of organic matter into the almost pure sand to give the soil structure and to improve its water retention.

The predominant method of soil preparation is trench-bedding. This labour-intensive practice is common due to the vast majority of urban farmers being 'home-gardeners', and therefore operating at small scale.

The trench-bedding method that is taught by these NPOs is as follows: A trench is dug with an area of 1.0m x 2.0m and a depth of 0.5m. Trench-beds may be longer than 2.0m, but they may not be broader, according to these NGOs' methods, as at no point should one ever stand on the bed. Thus, being narrow, they allow for the urban farmer to work the bed from either side. The sand that is dug from the trench is separated into a pile of topsoil and subsoil. The trench sides and bottom are lined with corrugated cardboard to reduce rapid water drainage into the surrounding sand. A mat of sticks is then cast into the trench to prevent water-logging and to encourage aeration of the soil, and some bones and cans may be thrown in to provide the slow release of calcium and iron into the soil, respectively. Upon this is placed a layer of newspaper sheets, in order to prevent the re-filled soil from filling the air gaps created by the sticks. Three layers then follow, with each layer made up of: a handbreadth of dry straw-like material, a handbreadth of wet organic waste, and a third of the subsoil. Each time such a layer is completed, it is irrigated. Once all three layers containing the subsoil are complete, the topsoil, mixed with compost, is spread over the top. The finished bed stands a little higher than ground level, making it necessary to border it using any freely available material from the surroundings, such as timber, stones or sand-filled soft drink bottles. The trench-bed is finished with a layer of mulch, and may be planted in immediately.

Those without any garden are encouraged to plant in containers, while those who farm tracts of land too large for trench-bedding are taught to sheet-mulch. Container planting, trench-bedding and sheet mulching all utilise the same principles of laying woody material at the bottom, layering alternately with dry and wet organic waste, and soil, and finishing with compost-enriched topsoil and a mulch layer. Container planting utilises the trench-bed method within a container, and sheet mulching utilises the method on the soil surface.

Mulching and zero-tillage

The trench-bed method is designed to keep the soil aerated, making tillage unnecessary. The introduction of sticks and straw to the layers introduces trapped air to the soil, and thereafter the activity of organisms within the soil, such as earthworms or moles, continues to aerate the soil. Tillage is actually discouraged, as it is believed to release nitrogen from the soil and disturb the colonies of microorganisms that contribute to soil health.

Mulching also encourages soil health, the NPOs believe. Key contributions mulching makes to soil health include reduced leaching of the soil from weather extremes; reduced compacting of the soil from rainfall; suppression of weed growth; and reduced evaporation from the soil. Urban farmers are encouraged to use any material that is available to mulch the soil. Typical mulches included straw and grass clippings, leaves and newspapers. Nevertheless, some urban farmers believed that the mulch layer harbours pests such as snails and caterpillars, and were reluctant to utilise it.

Fertilizers

All of the NPOs in this study were strongly against petro-chemical inputs, which include industrial fertilizers. Some of the key arguments espoused were that the sandy soil required organic matter, not chemicals, to

preserve moisture and improve soil structure; that the misapplication of petrochemical fertilizers could have detrimental effects on groundwater, the ecology and public health; and that the core principles of self-reliance, re-use and recycling of waste materials, and the reduction of input-costs preclude dependence on petrochemical suppliers or donations of these products. The urban farmers readily echoed this stance, as these arguments were included in the lessons.

During their training, urban farmers are taught to make their own compost using biodegradable wastes from their kitchen or garden, or by collecting them from their neighbourhood. The NPO representatives described urban farmers obtaining wastes from green grocers in their area, or from the grass clippings from municipal maintenance activities. One urban farmer described travelling to the beach by train to collect kelp for her compost heap. The use of kitchen waste was however not as pervasive as may be supposed. An NPO representative explained that urban farmers would generally cook such waste up to feed to their dogs.

Manure was negligible among home gardeners, as few kept animals that generated appropriate manure for horticulture. One urban farmer who kept goats used their manure to fertilize his cultivated plot, but such practice was the exception. Any manure that is available is collected by the NPOs from stables and cattle stalls further afield, in addition to the vast quantities of compostable waste from landscaping companies.

Other means to fertilize crops include a fertilizing 'tea' using organic wastes, which the NPOs teach urban farmers to make, as well as 'earthworm tea', which is a by-product of an earthworm farm and is claimed to be highly nutritious for plants. Very few of the urban farmers had earthworm farms, although these were in operation at the garden centres, but a fair number had tubs of 'tea', in which green matter could be seen brewing.

Intercropping and crop rotation

Intercropping and crop rotation are taught as methods of soil management. The impetus behind this practice, according to the training courses, is to balance the extraction of nutrients from the soil. Thus, planted in alternate rows are root vegetables, leafy greens, fruiting plants and legumes. With each season, the rows are rotated so that the nutrient-demanding fruiting plants of the new season are planted in the area where the legumes replenished the soil's nitrogen the season before, and the root vegetables, which do not benefit from too rich a soil, are planted in the soil that has been depleted over two seasons.

Discussion

In the post-industrial world, limitations of the urban setting, such as limited space, poor soil quality on marginal land, and the lack of economies of scale force urban farmers to maximise the variety and volume of their output all year-round without compromising the fertility of their relatively small tract of land (Opitz *et al.*, 2016). Urban farmers in Cape Town face similar challenges, as shown by the results, making it necessary for them to learn soil management techniques that are highly specialised to this context.

Poverty is the result of constrained *access* to resources, not necessarily the absence of resources (Mathie and Cunningham, 2002). Thus, some intervention is necessary to catalyse the development process as well as to steward it, to protect it from the environmental limitations that created the conditions in the first place (Kretzmann and McKnight, 2005). The results indicate that the NPOs promoting urban agriculture in Cape Town draw on a range of local asset bases to do so. The initial recruitment of trainees draws on assets such as passion or enthusiasm for soil health, which all of the farmers shared and which are aspects of human capital.

Social capital also presented important assets: in particular, the creation of supportive networks (Kretzmann and McKnight, 2005; Mathie and Cunningham, 2002). The NPOs initiated these by encouraging applicants to bring friends, family and neighbours to the training courses. The formation of neighbourhood groups who share tools also indicates harnessing social capital. The networks that were built through which urban farmers sourced

material, or gained access to land, are a further example of the use of social capital-related asset bases. The location of garden centres within the target neighbourhood also sustained supportive networks between urban farmers and the NPOs, and these became a social hub where urban farmers from the neighbourhood could meet, chat, share experiences and receive moral support.

Physical and natural capital are extensively used by the urban farmers in this study to promote soil health. Assets relating to these included using waste materials to build up soil health through composting, mulching or building basic infrastructure. By these means, natural goods and services were harnessed, such as natural predation of pests, microbial activity that promotes soil health and nitrogen fixing by legumes.

Financial capital is perceived as scarce on the Cape Flats, which is why an urban agriculture model is promoted that requires no financial inputs by urban farmers. Furthermore, the NPOs managed to obtain much of their resources from actors that were happy to get rid of materials such as manure from stables, or landscaping companies' refuse.

ABCD appears well suited to urban agriculture in resource-constrained contexts. It is surprising therefore that so few studies record this concept being deliberately applied, or fail to analyse such cases using this framework. The use of this framework by the present study may contribute to similar studies on resource-constrained farming in other contexts. Thus, although the case study method makes it impossible to generalise the findings to other contexts, it provides lessons that may be usefully interpreted for informing empirical research in other contexts, or for implementing urban agriculture projects with comparable methods and objectives.

Conclusion

Considering the challenges relating to soil management for urban farmers in Cape Town, it is notable that over six thousand urban farmers exist. The longevity of this practice in Cape Town (over 30 years) indicates the sustainability of the model in question. Key to its sustainability is the utilisation of freely available asset bases, in line with the ABCD approach.

What is interesting in these cases is that the four NPOs were central players in the development process, but the entire programme was directed at increasing the urban farmer's independence from extension support and external inputs through their utilisation of freely available waste materials from their surroundings. Thus, with the exception of some donated hand-tools, soil management was theoretically possible without any financial expense.

This study originated to answer the question: What lessons on soil management may be drawn from Cape Town's case for promoting urban agriculture that seeks to benefit economically marginalised people? Some of the key lessons are:

Any such project requires the identification of local asset bases that may be freely or cheaply available, in order to minimise the use of external material assistance. Such asset bases are not limited to material inputs, but also draw on existing relationships and networks that may sustain the project.

Investment in human capital through training is necessary, and any urban agriculture course would ideally be tailored to the socio-economic and cultural context of the target group, as well as to the ecological context of the area.

A catalyst is necessary to initiate and facilitate the development process. This can be an external actor such as an NGO, but the role of the actor remains to transfer ownership and sustainability of the development process to the target group over time.

The present study helps to address a gap in the literature by analysing a good practice case of soil management for urban agriculture. Furthermore, the present study not only contributes towards understanding why urban agriculture may be working in Cape Town, and which lessons may be applied to improve urban agriculture elsewhere, but also communicates the complexities of conducting data gathering in similar informal contexts, and how some major challenges may be overcome.

This research could contribute to improving an already exemplary policy environment for urban agriculture in Cape Town through providing policy-makers and development planners with a clearer idea of what works, and why it works. Such an understanding could increase effective and sustainable soil management practices for urban agriculture in Cape Town, ultimately contributing to sustainable livelihoods on the Cape Flats.

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