

Ethnographic insights on rural sustainability; homestead design and permaculture of Eastern Cape settlements in South Africa



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ABSTRACT

This article considers the prevalence of sustained agricultural practices (particularly large scale gardens of the homestead) and questions current public debate that permaculture strategy is foreign to South Africa. The paper speaks on recent ethnographic work by the author in rural parts of the Eastern Cape, or the former Transkei. The article makes comparisons to some of the founding principles of permaculture theory and practice to suggest that current agricultural practices and homestead (umzi, plural imizi) settlement patterns follow closely to “permaculture ideals” in theory and practice. An argument is made that the rural Xhosa homestead has developed much more to the tune of achieving sustainability for its occupants, as many continue to build to accommodate subsistence agriculture. Natural resources of the area also continue to be utilized and collectively shared. Whilst, the design strategy of incorporating animal enclosures (uthango, plural iintango, or ubuhlanti, plural iintlanti) within the homestead aid residents, as animal waste is utilized for fuel and fertilizer. The paper critiques ideas that believe rural areas to be “de-agrarianised”, or solely supported by the welfare state. A further critique is raised because of the idealised manner in which foreign ideas on development are esteemed as better than regional adaptations. The paper displays scepticism for Eastern Cape development models or those perceptions that do not account for local land use practices. Ultimately, the author critiques development models that do not delve deeply into how people incorporate settlement structures to maximise upon the use of natural resources.

Keywords: amaXhosa, agrarianism, built environment, permaculture, development, homestead settlement, anthropology, ethnography

1. INTRODUCTION

This article considers the prevalence of sustained agricultural practices (particularly large-scale gardens of the homestead) and questions current public debate that permaculture strategy is foreign to South Africa. Permaculture is often defined as an approach that integrates the design of

human settlement to that of agricultural processes, which take advantage of lessons learned (or patterns observed) from nature (Mollison & Holmgren 1978). The article makes comparisons to some of the founding principles of permaculture theory and practice to suggest that current agricultural practices and homestead (umzi, plural imizi) settlement patterns follow closely to 'permaculture ideals' in theory and practice (Mollison 1979; Holmgren 1978); the design features of permaculture to that of the Xhosa homestead feature prominent and comparable to these works. An argument is made that the rural Xhosa homestead has developed much more to the tune of achieving sustainability for its occupants, as many continue to build to accommodate subsistence agriculture. I believe that the homestead design concentrates settlement designs that incorporate agrarian culture and arguably represent 'permaculture'. I believe that homestead garden producers are much more efficient at permacultural design than is thought to be the case as natural resources of the area continue to be utilized and collectively shared. The design strategy of incorporating animal enclosures (uthango, plural iintango, or ubuhlanti, plural iintlanti) within the homestead aid residents, as animal waste is utilized for fuel, fertilizer and as a building material.

The article critiques ideas that rural areas are to be 'de-agrarianised', or solely supported by the welfare state. A further critique is raised because of the idealised manner in which foreign ideas on development are esteemed as better than regional adaptations. The article displays scepticism for Eastern Cape development models or those perceptions that do not account for local land use practices, or delve deeply into how people incorporate settlement structures to maximise the use of natural resources. The work is a reflection of recent ethnographic fieldwork conducted while living and working among residents of the Sirhosheni subward of Cafutweni administrative area (Ward 22), of Mquma local municipality¹. I examine more closely how animal enclosures and homestead gardens function within the homestead to increase food production for residents. Incidentally, for many residents having a homestead also means some households have some 'rights' to productive agriculture land in more fertile valley lowlands; although not all homesteads have ascertained these 'rights' or have the means to farm in these places².

2. BACKGROUND

On the 18th of November 2011, I attended a seminar in East London, hosted by Afesis-Corplan³ by a range of roleplayers from government to community. I was frustrated by the false assumptions about permaculture that were evident among the speakers and the audience. The seminar explored small-scale (or smallholder) agriculture in the Eastern Cape. Speakers discussed the challenges that populations are expected to face because of climate change and the worldwide depletion of natural resources. A documentary on *The Cuban case study*⁴ was shown, which examined the challenges that citizens of Cuba faced because of a lack of resources after the United States imposed a trade embargo. Permaculture design was shown to be an effective strategy to grow one's own food and manage the crisis of being 'cut off from the world' (ibid).

From presentations and discussions at this seminar, both the speakers and the audience evidently assumed that permaculture design was a foreign idea. The assumptions expressed at the seminar were that rural South Africans do not generally engage with permaculture practice. I argue that permaculture has a much longer history in South Africa, and continues to be practised in many

rural communities, even though people may not describe their gardening or farming techniques using this term.

3. PERMACULTURE AS METHOD

Permaculture is essentially about applying practical applications to ecology theory (Mollison & Holmgren 1978). Ecological design usually implements local or regional needs and takes advantage of available resources. Symbiotic relationships between certain species are often exploited and capitalised on in the design, and there is the understanding that waste is a resource, rather than a useless by-product (ibid; McDonough & Braungart 2002). ‘Bio-mimicry’ (replicating what is found in nature) is often utilised to tap into the natural design methods that are already often apparent and function well.

Permaculture theory ‘understands’ that the better designs are often those that have developed over time, show complexity, and most of all highlight densely productive agriculture with the least possible input. Strategies that are the least labour intensive are extremely valued and provide the best example of permaculture. There are currently many examples of permaculture worldwide, often represented by eco-village settlements, and intentional communities often employ such strategies, with more recent eco-municipalities (such as Curitiba in Brazil) offering training and practical design-based courses on how to use permaculture principles⁵. However, the South African context may be ‘untapped’, in the sense that permaculture practitioners have not implemented or learned from those design strategies within the rural context. There has been little attempt to synthesise what permaculture practices currently exist (although Leahy (2009), has made some attempt)⁶. My understanding is that permaculture strategy is much more regionally concentrated than is recognised. What is needed, therefore, is more awareness to examine the local permaculturalist endeavours that have developed as a result of the history that the amaXhosa (and others) have been working the land.

4. THE HOMESTEAD DESIGN STRATEGY

The *umzi*, or homestead, can be characterised as having several huts (or residential sites), a garden plot adjacent to the huts, a cattle kraal and livestock, tools and equipment, agricultural storage huts, other implements for farming, and/or (an) agricultural field(s). Establishing the homestead is culturally considered a sign of social maturity and economic prosperity, and the homestead holds material, social and religious/symbolic importance for its members (Bundy 1988:20; Fay 2005; Hunter 1936; Kuckertz 1990; 1984; Kuper 1980; McAllister 2001; 2006). Establishing the site for building (*inxwiwa*) is also important, as it relates to one’s connection with the ancestors, and land rights to burial sites (Berglund 1936; Cook 1931; Hoernlé 1966, *original* 1937; Hunter 1936; Krige 1936; Soga 1931; 1930). The identification with land is therefore fundamentally linked to the material homestead, which ideologically connects one to the village one lives in, and thereby gives some sense of meaning to one’s life (Ibid.). The *umzi* pattern has historically developed in responding to the surrounding physical and climatic environment (Sansom 1974); and, the homestead offers residents the physical space to reflect on those social and ecological values that they find important (Bundy 1988:20; Wilson & Thompson 1969).

4.1. The rhythms of the garden

I have observed that considerable conscious design strategy is utilised to construct both large and small salad/vegetable gardens (*igadi* or *isitiya*, respectively). Rural homes often promote neighbourhood sharing, in that neighbours gather to plant, weed, and harvest, thereby decreasing the overall labour that individual families would require to maintain the larger gardens⁷ (McAllister 2001; 2006). One of the benefits of collective concentrated work is that it helps to ‘stack functions’ (to use a permaculture phrase), thereby increasing one’s agricultural returns. Moreover shared work also has social benefits, in that it allows people in society to reinforce their values through practising behaviours that they collectively find appropriate (McAllister 2006:43–80; Mollison 1979).

Permaculture design focuses heavily on natural patterns. Permaculture designers are encouraged to develop an awareness of the patterns that exist in nature (and how these function), in order to utilise specific design in local, regional and site-specific places (Mollison & Holmgren 1978). In the rural Xhosa context, the ‘rhythms of the garden’ are understood by most villagers, who start to prepare in November (or before) for the planting of crops in December. There is preparation (from October to November), for example, to spread manure from the kraal (*uthango*), as young boys dig out about half a metre or so of the fertile organic fertiliser and spread it over parts of the larger gardens adjacent to the homestead. The fertiliser soaks into the soil when the rains naturally dilute the material. The rain also moves the soil around the field, as the fertiliser gravitates from the upper sloped part of the garden to lower sections. This strategy ensures a noticeable conservation of labour. Other notable labour-saving strategies include working in collective groups to weed and harvest the fields, as part of neighbourhood work parties where a more nutritional drink, *amarhewu*, is offered to workers, and meat (often chicken or mutton) too, is sometimes shared. There is the expectation of reciprocity, to have similar work done on the garden plot of another individual, which in most cases prolongs neighbourhood and kin connections and the community spirit of working together (McAllister 2001; 2006). Most rural inhabitants have a solid understanding of how seasons operate on the rural landscape. They know when to cultivate the land, when the rains are nearing, when to plant, when to harvest, and what plant species work in a symbiotic relationship with one another. If a central feature of being a ‘good’ permaculturalist is listening and understanding how natural features and rhythms function, it can be argued that many amaXhosa in the rural areas know the fundamentals of permaculture design.

4.2. Zones of permaculture design⁸

One theoretical underpinning of permaculture design is the notion of zones (Mollison & Holmgren 1978). The notion of zones enables an understanding of how to design relationships with the built environment, which reduce the energy expended as a result of unnecessary labour. Often the household is considered in relation to six zones, namely Zone 0 to Zone 5. The first zone, Zone 0, is at the centre where the main households are based. The aim of this zone is to locate the most needed resources, food items, and so forth, and in as close proximity as possible to household activity. An observable benefit articulated by residents is to locate the *umzi* and dwellings on the ridgelines of the valleys to protect rangelands and garden areas from the

impact of high-density settlements (Fay 2011; Sansom 1974; Shaw and van Warmelo 1981). For instance, building in the low-lying valley bottoms would hinder the collective ability of village residents to share in riverine resources, such as field production or water collection for drinking purposes (Moeller & Perry 2011). Larger fields are also utilised, often as a right of the homestead head (*umninimzi*) to have a field or fields near to stream and river locations. Building in the low-lying areas would compromise collective rights to fields and natural resources and would hinder the potential of households to achieve economic success.

As economic success also has a social relationship, because those with wealth often share in ritual gatherings and distribute wealth symbolically (in the form of beer drinks and animal sacrifices, where portions of drink and meat are shared throughout the community), ensuring that natural resources are accessible to all members of the community (as resources such as water, grazing lands, and forest wood are often regarded as collective entitlements), protecting these resources for everyone in the village makes sense for both the individual family and the collective success of the village as a whole. There is therefore the understanding (in a permacultural sense of a first zone, or Zone 0) that households harness certain elements of nature, such as the way the topography of the land can be used to save people time and energy, whereby residents take advantage of gravity, and understanding that heavy rainfall drainage can cause damage if houses are built in lowland areas. Rural residents take advantage of nature, knowing the cycles of the rural landscape.

The homestead is ultimately organised to incorporate multiple structures, namely the cattle kraal, garden, and houses (including storage huts). These components lie in close proximity to one another for the benefits that this brings, including conservation of labour output. The permaculture Zone 1 is that zone closest to the household, and it requires more frequent attention. The smaller gardens often have, for example, cabbage, onions, carrots, kale, other salad greens, chilli peppers, beans, and so on, which require more careful attention in terms of the water they need. These gardens are often located quite close to or behind animal enclosures and receive from time to time throughout the year added fertiliser from cow manure. Xhosa women, whose responsibility it is (generally) to take care of the plants and smaller gardens mentioned above, are in much more constant proximity to attend to the needs to protect and maintain these valuable food resources.

Different homestead structures create the best approximation of working with the land in a sustainable way. For instance, animal enclosures and smaller gardens are situated close to the houses to monitor these resources with regard to theft, or to intervene if animals fall sick. In the case of tending to one's produce, the labour to water plants is reduced by the distance required to fetch and dispense water.

The permaculture ideas of Zones 2 and 3 include growing vegetables or plants that require less frequent maintenance and less 'weed control'. In the rural Xhosa context, these zones are often represented by the larger gardens behind the cattle kraal. The gardens often lie fallow for some time after the harvest of maize, but do require weeding at intervals throughout the growing season. Generally, the larger gardens do not require as much attention as the smaller salad gardens (*isitiya*). Interestingly, intercropping, another permaculture design strategy among

plant species is practised in the rural context. Maize is often planted with a variety of beans and squash, albeit beans and squash are often more so along the edges of gardens.

Zones 4 and 5 indicate places which are ‘semi-wild’ or ‘wild’, respectively. In the rural Xhosa context, these locations happen to be the wider untilled fields, streams, river-valley lowlands and forests. In both these zones, rural residents make use of their natural surroundings by foraging and collecting wild foods, medicinal plants, timber for building, and firewood, and some community members hunt for small game such as Cape hare (*Lepus capensis*), or *umvundla* in isiXhosa (Sansom 1974; Timmermans 2004; 2002).

4.3. Rainwater harvesting

If one considers permaculture as a ‘toolkit’, with one’s ability to ‘work with nature rather than against nature’, to paraphrase Mollison (1979), then the residents of the rural Eastern Cape are very engaged in proactive strategies to capitalise on what natural resources exist (Fay 2011; Timmermans 2004). Rainwater harvesting is one of those changing adaptations that people are making to better their lives (Moeller and Perry 2011). Most rural households I have spoken to want large plastic tanks, (often the green-type manufactured by Jojo Tanks), as these provide residents with a method of harvesting rain from the rooftops of dwellings, relieving them of the burden of the heavy labour incurred in collecting water. Many home owners already engage in more ad hoc rainwater collecting, as they use a variety of makeshift gutters and gutter systems to collect rainwater in whatever buckets, basins, and larger barrels of metal and/or plastic containers that they have at hand (ibid). Storing and collecting natural resources to save on the energy of collecting these materials, or to save on the cost of purchasing materials, is another hallmark of permaculture philosophy (Mollison & Holmgren 1978). Currently the use of storage tanks for rain has empowered many women (particularly the elderly) to avoid the physically demanding labour of hauling water from the valley streams and springs (*emthonjeni*) up to the ridge locations (Moeller and Perry 2011).

5. DISCUSSION

The basic permaculturalist strategies that rural residents employ, which I have described above, and drawn from field research I have conducted in and around the Mnquma local municipality, highlight some key points, such as the ability of rural inhabitants to observe and engage with the ecosystems found in nature, where such observation and engagement are attributes of permaculture⁹. Such interaction, namely that between the observable reality of nature and human action, has been translated into an overall design strategy, which the homestead exemplifies. It is felt that the design solutions of rural villages are regional adaptations, in the fullest sense, of realising a ‘permaculture ideal’. The homestead design has the ability to capture and store energy, such as when manure as fertiliser is allowed to accumulate in the kraal, and is then applied on gardens and fields. The design also offers other attributes that are characteristic of permaculture, for example, permaculture ideas such as obtaining surplus yields, making the best use of the resources found in nature, utilising waste products, integrating rather than segregating systems, and, more importantly, diversifying plant species, all help to sustain the ability of residents to maintain households (Sansom 1974; Shaw 1974; Shackleton, Shackleton & Cousins

2000). It is felt that homestead design methodology is similar to permaculture, readily adapting to change (Perry 2011). This includes moulding new ideas and technology into a redesign of the homestead that offers a unique, culture-specific response to the built environment, including the incorporation of permacultural-like values centred on maintaining some continuity to an agrarian lifestyle.

Nevertheless, the conference did prompt the question of why both speakers and participants generally overlooked what I perceived as constructive, namely that the rural amaXhosa engage and practise agriculture very much in line with permaculture ideology. I gained the impression from speakers that they thought that agriculture production in the Eastern Cape was negligible. It perhaps makes more sense to explore and adapt new ideas to what local people already practise, rather than to try to introduce what could be perceived as an entirely new method. One should never doubt the systems of cultural practice, as these often develop over time and embrace ‘indigenous knowledge’. I think the rural engagement with an agrarian lifestyle is more complex than it appears, as cultural characteristics of rural Xhosa life in these areas reflects alternatives to ‘model[s] of what agriculture should be: productive, efficient, rational, enterprising, and “modern”’ (Bundy 1988:22). To suggest that rural people are not engaged with strategies that capitalise on rural resources is plainly inaccurate. As Bundy (1988:22–23) notes, such a view lacks appreciation of colonial history and the technology (or lack thereof) that rural people have access to in a racially divided South Africa inherited from the apartheid era. I am not convinced that we should be approaching the concerns of agriculture development in the Eastern Cape as a ‘problem’ and I believe best-practice approaches from other parts of the world have the best potential to succeed when these practices take cognisance of the needs of locals and the current agrarian practices that they engage in. This idea is not a new one. Principles such as the one stressed here have been advocated by development practitioners and within non-governmental organisational circles for some time¹⁰ (Leahy 2009; Schech & Haggis 2002).

My hope for the conference was one wanting to hear more discussion about how government (and other pertinent stakeholders) could support current agriculture strategy, but incorporate agrarian practices with new technologies. The more important debate should be about improving on what rural attributes exist above and beyond debates suggesting agrarian culture has dissolved. I imagine there are many more synergies that could be made to incorporate 21st century developments with current agrarian practices. This has potential to develop both basic services and increase the agricultural sector of the Eastern Cape. From my ethnographic work, it was clear to me that people are already well aware of or engaged in best practice attempts at working the land, which includes a type of management of the limitations and challenges that currently exist. The question for the Eastern Cape context is perhaps more direct: ‘Are we shaming the rural agrarian producer, because he or she is an easy target compared to the complex and difficult question of how to improve rural South Africa? Are we perhaps looking for easy answers from foreign models?’

6. CONCLUSION

We need to unearth why there is such a knee-jerk reaction that dismisses aspects of agrarian culture as ‘inefficient’, ‘backward’, and ‘unproductive’. Why is it that it is more often the case that assumptions of rural engagement with the land are quipped as ‘ill-designed’, and perceived as strategies that lack merit or function for the mere reason that production has waned over the years?¹¹ I suggest that research should explore and unpack rural Xhosa strategy as it relates to permaculture principles, learning from Xhosa settlement strategies that capitalise on natural resources. Although I agree with comments from the conference concerning the importance of understanding how state capital and welfare programmes are used in livelihood strategies, I believe there is a greater need to understand why people reinvest resources into agriculture activities. For example, homestead gardens remain valued, because without them, one would struggle to maintain a nutritional diet. Permaculture design and strategy exist in rural areas and are exemplified by an overall homestead design. The residents of rural villages I have worked with are adapting to changes in the built environment, and are retaining agrarian values and practices as sacrosanct. We need to revisit rural Eastern Cape settlement designs for their permaculture principles (and improve upon them). Many amaXhosa are very much permaculturalists, even if the term is confusing to some. It is perhaps much more in the interests of changing lives that both local and foreign ideas can be incorporated and understood for the similarities they share and the benefits that can be derived from learning about alternative ways of living off the land.

I do not believe the assumption made by many at the Afesis-corplan seminar that permaculture is a foreign concept. I suggest that the homestead design strategy could very well weather a problematic and uncertain global future especially if certain design features could be improved. Despite the challenges, I believe that rural agrarian culture is vibrant and alive, neglected in study for its permaculture principles because much wider perceptions within South Africa believe the rural areas have been ‘de-agrarianised’. If there is a desire to revitalise a ‘permaculture ethos’, then there is a need to acknowledge that people have engaged in, and continue to engage in, agrarian strategies that approximate permaculture practice and theory.

NOTES

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ENDNOTES

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1. I began this work in January 2011 and I am still in the process of learning isiXhosa and completing PhD research.

2. In February 2012, I helped carry out a subsequent 31 household survey (outside of my own ethnographic household survey work with 32 households), which was sponsored by the Water Research Commission (WRC) through Umhlaba (Seta Group) to help investigate water usage and agriculture practices particularly for women in rural communities. Findings suggest 86.66% actively use gardens or intend to develop gardens in the near future. As the results represent a 12% sample of a village of approximately 250 homesteads one gains a sense of the scope that subsistence agriculture is (and has remained) important. Of the households that reported having access to a larger field, or 40%, many struggled to fully develop and cultivate these fields because of economic limitations and/or poverty related challenges within the family, but a strong desire to cultivate remains.
3. See <http://www.afesis.org.za/Seminar-Information/>
4. The Afesis-Corplan DVD clip that was shown was titled *The power of community: How Cuba survived peak oil*. Peak oil is 'the point in time when the maximum rate of global petroleum extraction is reached, after which the rate of production enters terminal decline' (http://en.wikipedia.org/wiki/Peak_oil).
5. Two opportunities for permaculture training can be found at <http://www.holmgren.com.au> and <http://www.tagari.com/>, respectively.
6. The problem with Leahy's work (2009) is that he still assumes more generally that permaculture strategy needs to be replicated from elsewhere. Not much attempt is made to identify what local South African designs currently exist, and to understand how current agrarian practices could be modelled to fit with practices from elsewhere, despite some ideas which are highlighted.
7. There is some indication in the literature that neighbourhood collaboration is on the wane. My belief, however, is that in certain regions in South Africa neighbourhood sharing and work between households remain integral to socio-economic life. Similar to what McAllister (2006; 2001) noticed in Shixini, there continue to be incentives for people to collectively share with their neighbours, as such practices lessen the labour required, and people often bond to share their beliefs and similar values.
8. <http://en.wikipedia.org/wiki/Permaculture>
9. <http://en.wikipedia.org/wiki/Permaculture>
10. The text of Leahy (2009) is particularly valued as a permaculture design overview for South Africa, but again does not really engage with understanding what historical and more contemporary permaculture-like strategies have existed for some time.
11. McAllister (2005) suggests that agriculture may, in fact, be much more productive than previously thought, and especially in areas where there is heavy rainfall.

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