Sustainability and Difference in Suburban Cape Town

Rudolf Perold[1] and Oswald Devisch[2]
[1] Cape Peninsula University of Technology, South Africa and Hasselt University, Belgium
[2] Hasselt University, Belgium

Introduction

Suburban development and its inherently unsustainable spatial and socio-economic characteristics pose a major challenge for the transition to more sustainable forms of urbanism. The rapid growth of African cities, most of which can be categorised as suburban, or at least peri-urban, defy belief, and the associated population growth results in a host of environmental pressures[1]. For the majority of this growing population, the urban condition is one of informality, and experts suggest that most African cities will remain predominantly informalised and reliant on the routine efforts of ordinary people to secure livelihood and shelter, without recourse to government support programmes[2].

Where such programmes are available, there is often a large gap between official urban planning policies and the everyday lives of the people for whom they are designed, which is widened by a profound lack of knowledge of what actually constitutes everyday life in informal settlements[3]. To explore ways in which such "suburbs" can be altered to become more sustainable, we require comprehensive and context-specific approaches.

After presenting the theoretical premise underlying this exploration, we will discuss an ongoing research-by-design project which forms part of the doctoral research of the author. The project utilises a combination of live project methodology and scenario development to determine pertinent urban sustainability issues in the context of informal settlements in Cape Town (fig. 1). Given the socio-economic diversity of the South African urban population it is expected that a variety of approaches towards sustainability will be uncovered. In attempting to understand informality in this manner, the architectural profession might re-establish its relevance in the rapidly evolving African urban context.

Fig. 1. Khayelitsha, the largest informal settlement in Cape Town (Zabel, Z. R., 2013).

Whose Sustainability?

There are competing and conflicting views over the meaning of the term sustainability, and about what the most desirable means of achieving this goal is[4]. What, for example, is sustainability when seen from the perspective of an economically disenfranchised person living in an informal settlement? In such a context, where scant attention is paid to official urban planning, communities develop their own specific forms of urbanism and infuse the city with their own praxis, values, moralities, and temporal dynamics[5].

Just Sustainabilities

Sustainability cannot be reduced to an environmental or "green" concern alone. In a truly sustainable society wider questions of economic opportunity, social needs and welfare are integrally related to the environmental limits imposed by supporting ecosystems. Accordingly, in defining the term 'just sustainabilities' as a plural form, Julian Agyeman acknowledges the relative, culturally and place-bound nature of the concept[6].

In South Africa, Edgar Pieterse at the African Centre for Cities focuses on sustainable lives and livelihoods, rather than the question of sustaining development. Sustainable livelihoods provides a wider conception of sustainability, referring to processes of social and ecological production situated in diverse spatial contexts, which are understand to be non-linear,

indeterminate, contextually specific, and attainable through multiple pathways[7].

Transitions to Sustainable Urbanism

Writing in the context of Cape Town, Pieterse observes that the confluence of globalised economic and ecological collapse is manifested most starkly in the dire circumstance of the majority of the city's residents, who are excluded from the formal economy and must rely on substandard public services and their own makeshift shelters[8]. This echoes Agyeman's comment that human inequality, manifested as the loss of human potential, is as detrimental to our future as the loss of environmental potential[9].

The loss of human potential should be set against broader issues which relate to long-term economic resilience and environmental sustainability[10]. In this context, Agyeman describes a paradigm of sufficiency, suggesting that there might be an optimal level of consumption which meets both material and non-material needs associated with consumption, without compromising other needs relating to environmental quality, social equality, or individual health[11].

Jeremy Till writes that as an ethical issue, our architectural approach to sustainability should become much more than short-term technological fixes, as it has to take on the wider interactions between nature and society[12]. We need to start a much livelier process of working together to identify what the architectural profession can contribute in thought and practice to help enable rapid transitions to sustainable urbanism[13].

Modernism, Apartheid and Everything After

The architecture of colonialism on the African continent is principally inscribed with a deep and enduring legacy of modernisms. Iain Low describes apartheid as a special type of colonialism, and modernism as its handmaiden. [14]

South Africa's first democratic elections, twenty years ago, brought an enabling environment open to the building of difference as a productive means for the rebuilding of society. However, the spaces that have historically kept people apart remain firmly inscribed in our landscapes. Apartheid's segregating practices resulted in radically reconfigured terrains, with communities increasingly distanced from each other in an urban geography resembling spatial practices in contemporary Palestine[15].

During the two decades of the post-apartheid era Cape Town has experienced rapid growth, developing into a huge, sprawling city with a substantial number of new neighbourhoods, townships and informal settlements. Khayelitsha is now the biggest of these, and is home to a ever-growing number of economic migrants from the rest of the country[16].

Slum Urbanism as the New Suburbia

Globally, as in Cape Town, rapid urbanisation has left vast swathes of people living in sub-standard conditions[17]. In their book "Retrofitting Suburbia", Ellen Dunham-Jones and June Williamson argue that it is no longer useful to refer to central cities and suburbs, as suburbs are behaving more and more like central cities and metropolises embrace both as they become more polycentric[18]. Following this logic of suburban metamorphosis, one could argue that informality will be increasingly recognised as a manifestation of suburbia.

Low observes a foreboding dissatisfaction among the poor regarding their habitat[19]. This is also evident in Cape Town, where the organic form of the over two hundred informal settlements often make it difficult for the City of Cape Town to provide municipal services such as water, sanitation, electricity and waste removal[20].

Across South Africa, recent riots responding to issues of governance and service delivery are indicative of this dissatisfaction, and are accompanied by unfathomable levels of (self)-destruction. The expectation of ordinary South Africans, who have been disenfranchised for generations, is enormous and their impatience more than understandable[21]. It is naive and dangerous not to put the impossibility of upward social and economic mobility for the vast majority of Capetonians at the centre of any debate about how to address the crises of economy and ecology[22].

Shack Reblocking and in-situ Upgrading

As shown in the preceding paragraphs, a complex set of competing realities has been at work in South Africa, impacting on the production of a rich and diverse set of architectural and urban interventions. Shack reblocking and in situ upgrading, both processes that respect pre-existing local conditions and respond to urban design as a temporal process, are two of the multiple and diverse design approaches that occur within the broader search for humane dimensions in settlement making[23].

The research-by-design project which will be discussed in this paper was undertaken in support of a shack reblocking project in Cape Town, facilitated by the Community Organisation Resource Centre (CORC). They are a Cape Town-based NGO that, through Shack / Slum Dwellers International (SDI) and the Informal Settlement Network (ISN), support shack reblocking projects by facilitating peer-to-peer learning exchanges; providing project support in terms of architecture and planning,

project and financial management, documentation and learning; and fund raising through small scale projects[24].

Shack reblocking involves the reorganisation of housing structures in very dense informal settlements, according to a community-drafted spatial framework. This process is undertaken in clusters identified by the community, and after implementation, courtyards are created to ensure a safer environment for woman and children by means of neighbourhood watches (all shacks face the courtyard), productive places (such as washing lines, food gardens), and to provide space for local government to install better services[25].

The process of negotiating floor areas of the "reblocked" shacks (constructed with high-quality galvanised steel sheets with high fire resistance ratings, until such time as in situ upgrading of the structures take place) builds social cohesion and solidarity, and further mobilisation occurs through savings schemes and livelihoods initiatives, enumeration (establishing a comprehensive household-level socio-economic and demographic profile), the spatial mapping of existing services, community-based design, and eventual collaboration during the implementation of the settlement-wide upgrading strategy[26]. The success of shack reblocking projects in Cape Town have been such that the local government has adopted the process as part of their informal settlement upgrading policy[27].

This is emblematic of Nishat Awan, Tatjana Schneider and Jeremy Till's concept of spatial agency, which starts with an understanding of the political implications of a given context and then uses that understanding to creatively transform space for the better, or more particularly to transform the lives of people within that space by paying close attention to how space affects social relationships[28].

Enter Pedagogy

Till observes that many of the values that define the architectural profession are first established during the education process[29], and further states that architectural education has become autonomous from the real world. The resultant stasis has produced a political and ethical void in which the underlying processes and their social detachment are left unexamined[30]. However, there are growing number of attempts to change the values of practice from within academia, through the introduction of an ethical dimension to architectural education, making students aware of their wider social responsibilities[31].

Curriculum in Flux

Contemporary approaches to research and teaching increasingly reposition students in the "real world" to facilitate a learning experience specific to their immediate and local context, thereby enabling them to produce locally relevant knowledge[32]. This situated knowledge counters Zygmunt Bauman's ethical paradox of the post-modern condition; that it restores to agents the fullness of moral choice and responsibility while simultaneously depriving them of the comfort of the universal guidance that modern self-confidence once promised[33].

The model of architecture as transformative agency is dependent on a revised version of professional values, asking them to operate as one set of informed principles among many. It does not ask that architectural knowledge should be disbanded[34]. We must avoid the temptation to abandon the traditional architectural skills of design and spatial intelligence, and instead see how they might be exploited in different ways and contexts[35].

Design-Build Research Studio

Architectural education at the Cape Peninsula University of Technology (CPUT) in Cape Town is undergoing a change in content and delivery methods, and the Design-Build Research Studio (DBRS) was established by Hermie Delport and the author during 2011 to support this change, by addressing the ethical responsibility of designing to stimulate growth and renewal in South African socio-economic realm.

Fig. 2. CPUT students constructing an outdoor classroom at the St. Michael's School, Grabouw (Photograph by author, 2012).

We agree with Salingaros and Masden that the learning experience must be specific to students' immediate and local context[36], and as such the DBRS fosters real world, hands-on learning opportunities at various locations in and around Cape Town (fig. 2).

Vygeskraal

During March and April 2013, the DBRS collaborated with CORC and the community of Vygeskraal to support their own shack reblocking project. Vygeskraal is an informal settlement in Athlone, 15 kilometres east of Cape Town, with a population of 546 inhabitants living

in 245 shacks. The settlement is located on a portion of land owned by the City of Cape Town, between an established suburban neighbourhood and a storm water channel (fig. 3).

Real world, hands-on engagement

As the collaborative project entailed the involvement of, partnership with and ownership by the community, the role players included residents of Vygeskraal, CORC, DBRS and the City of Cape Town. The brief was determined by CORC, DBRS and community representatives, and forty Bachelor of Architectural Technology students participated in the project during March and April 2013.

The aim of our involvement in the project was for students to assist the residents of Vygeskraal with capturing their development goals toward the upgrade of their existing informal settlement. The Vygeskraal project was distinct from a typical studio project in its engagement of real clients or users, in real-time settings. Students were taken out of the studio setting, and repositioned in the "real world".

Olwethu Jack of CORC described a community driven design process to our students as an exchange of knowledge and ideas between professionals (or students, in our case) and community members to solve a problem, while allowing the community to lead the process.

Fig. 3. Aerial view of Vygeskraal (Google Maps, 2014).

Prior to their interaction with the community, the students were sensitised to aspects such as different backgrounds, different levels of education, different languages and cultures; and the fact that the community members have little or no understanding of design jargon or principles. During the visit to Vygeskraal for data-gathering and on-site analysis (fig. 4), the students experienced the extreme living conditions that the community was subjected to, as well as the everyday challenges of accessing clean water, sanitation, and protection from flooding and fire.

Fig. 4. CPUT students on a site visit to Vygeskraal (Photograph by author, 2013).

CORC expedited the process by providing the students with the relevant information (in mapping the settlement and measuring the informal dwellings), which afforded the students more time to interact with the community and focus on generating collaborative options for improving the settlement's dwellings, infrastructure services, and surrounding environment.

Fig. 5. Studio-based collaborative design workshop with students and community members (Photograph by author, 2013).

By engaging with the community, the students became increasingly aware of the community's urgent need to create shelter (fig. 5). They also realised that they had to approach the project differently from the conventional architectural design practices in many of their previous design projects, which were often driven by their preoccupation with spatial expressions of form-making. Their collaborative approach aimed toward a more user-friendly and demystified design process to allow for the direct involvement of the community in the decision-making process[37]. By the end of the collaborative project the students had developed a slide-show presentation, design proposal posters (fig. 6), process video and site layout model.

Fig. 6. Excerpt from student presentation (Photograph by author, 2013).

Thus the project achieved material benefits for the community in the form of infrastructure, site and dwelling layouts, as well as the academic development of the students. The proposals generated during the project will also inform the ongoing shack reblocking and in situ upgrading of the informal settlement as it unfolds.

Conclusion

Although only one community benefits from each shack reblocking project, the most profound change that occurs is most likely within the learning of our students. Not only do they learn about design and technology, as they would with any normal studio project, but they are made aware of the benefits and possibilities that relatively small interventions can have for whole communities. Edgar Pieterse writes that the only viable agent of urban reforms will be dynamic coalitions of organisations rooted in communities[38]. The architectural profession must learn how to apply their skills and knowledge in support of these organisations and communities.

The inescapable reality of the world must be engaged with, and in that engagement is the potential for a reformulation of architectural practice that would resist it present marginalisation and find new hope[39]. The more students are exposed to this kind and way of work, the bigger the probability that these future practitioners will engage in similar meaningful projects. As Roberto Mangabeira Unger writes, it is not about wholesale revolution from on high, but about engaging with existing structures to "establish small-scale, fragmentary versions of the future"[40].

References

1 De Boeck, F. 2014. "Challenges of Urban Growth: Toward an Anthropology of Urban Infrastructure in Africa." In Lepik, A. (Editor). Afritecture: Building Social Change. Munich: Architekturmuseum der TU München, p. 93.

2 Pieterse, E. 2014. "Competing Imaginaries of Empowerment in African Cities." In Lepik, A. (Editor). Afritecture: Building Social Change. Munich: Architekturmuseum der TU München, p. 105.

3 De Boeck, F. *ibid.*, p. 93.

4 Agyeman, J. 2013. "Introducing Just Sustainabilities: Policy, Planning, and Practice." London: Zed Books, p. 4.

5 De Boeck, F. *ibid.*, p. 95.

6 Agyeman, J. 2013. "Introducing Just Sustainabilities: Policy, Planning, and Practice." London: Zed Books, p. 4-5.

7 Pieterse, E. (Editor). 2010. "Counter Currents: Experiments in Sustainability in the Cape Town Region." Auckland Park: Jacana Media, p. 14.

8 Pieterse, E. 2010. *ibid.*, p. 13.

9 Agyeman, J. *ibid.*, p. 7.

10 Pieterse, E. 2010. *ibid.*, p. 13.

11 Agyeman, J. *ibid.*, p. 32.

12 Till, J. 2009. "Architecture Depends." Cambridge, MA: The MIT Press, p. 183.

13 Pieterse, E. 2010. *ibid.*, p. 13.

14 Low, I. 2014. "Urban Impact: Important "Counter Currents" from South African Cities." In Lepik, A. (Editor). Afritecture: Building Social Change. Munich: Architekturmuseum der TU München, p. 156.

15 Low, I. *ibid.*, p. 151.

16 Tovrov, D. 2011. "Five Biggest Slums in the World." Available at: http://www.ibtimes.com/5-biggest-slums-world-381338 [accessed 2 August 2014].

17 Awan, N., Schneider, T. and Till, J. 2011. "Spatial Agency. Other Ways of Doing Architecture." London: Routledge, p. 41.

18 Dunham-Jones, E. and Williamson, J. 2011. "Retrofitting Suburbia. Urban Design Solutions for Redesigning Suburbs." Hoboken, N.J.: John Wiley and Sons, p. xxvii.

19 Low, I. *ibid.*, p. 152.

20 South African SDI Alliance. 2012. "City of Cape Town adopts reblocking policy." Available at: http://sasdialliance.org.za/city-of-cape-town-adopts-reblocking-policy/ [accessed 16 March 2014].

21 Low, I. *ibid.*, p. 152.

22 Pieterse, E. *ibid.*, p. 259.

23 Low, I. *ibid.*, p. 151.

24 Fieuw, W. 2013. "Shack Reblocking." CORC presentation, n.p.

25 South African SDI Alliance. *ibid.*

26 Fieuw, W. *ibid.*.

27 South African SDI Alliance. *ibid.*

28 Awan, N., Schneider, T. and Till, J. *ibid.*, p. 39.

29 Till, J. *ibid.*, p. 17.

30 Till, J. *ibid.*, p. 15.

31 Awan, N., Schneider, T. and Till, J. *ibid.*, p. 47.

32 Salingaros, N. A. and Masden, K. G. 2008. "Intelligence-Based Design: A Sustainable Foundation for Worldwide Architectural Education." Archnet-IJAR: International Journal of Architectural Research 2(1), p. 129.

33 Bauman, Z. 1993. "Postmodern Ethics". Oxford: Blackwell, p. 3.

34 Till, J. *ibid.*, p. 165.

35 Awan, N., Schneider, T. and Till, J. *ibid.*, p. 26.

36 Salingaros, N. A. and Masden, K. G. *ibid.*, p. 129.

37 McGill University. 2006. "Community Architecture", p. 33. Available at http://www.mcgill.ca/files/mchg/chapter3.pdf [accessed 17 April 2013].

38 Pieterse, E. 2014. *ibid.*, p. 112.

39 Till, J. *ibid.*, p. 2.

40 Unger, R. M. 1987. "False Necessity: Anti-Necessitarian Social Theory in the Service of Radical Democracy." Cambridge: Cambridge University Press, p. 411.