

ABSTRACT



The modern day cultural landscape of man is no longer shaped by mere geology – but by the forces of culture, economics, social activity, politics and technology (Silva, 2012). Still, there are cases where geographical scars divide the cityscape, leaving voids in infrastructure and islands of open space within a thriving metropolis around these vacant patches of land. These vacant patches of land are often termed brownfield sites – once productive infrastructural components actively contributing to the formation of cities and industry. The mining belt of Johannesburg and some of its surrounds (particularly the area around the Heidelberg interchange and Faraday taxi rank) is a classic example

where open patches of land exist, surrounded by a concrete jungle which is Johannesburg – “a world class African city” (joburg.org). According to Steyn (2007) the rate of urbanisation in Africa far exceeds that of the western world, which means that un-programmed, unprotected open land becomes soft targets for those prospecting ‘statistics’ flocking to the city – lured by the illusion of opportunity. Centrally located open land therefore becomes an extremely valuable commodity – a commodity that may aid in dealing with the rapid urbanisation issues that 21st century cities face. Not only are urbanities of the 21st century confronted by issues of rapid urbanisation and urban sprawl, but these urbanities need to combat issues in three omnipresent spheres – environmental, social and economic. It is within urban planning that these spheres have their closest overlap (Un-Habitat, 2009) and it is within this overlap that the concepts of resilience and sustainability can be best explored.

As a result of their primary use, these fragmented wastelands are not well-suited for living, but do sometimes become the dwelling places of people willing to live in sub-standard living conditions. The mining belt of Johannesburg and its immediate surrounds is littered with brownfield sites - sites that share the characteristics of polluted, underutilised, fragmented, large stretches of vacant land, and are lacking in programme and urban form.

This dissertation aims to pioneer a type of urban design uniquely developed for urban void landscapes – leftover sites otherwise

known as brownfields – whilst addressing greater issues of sustainability and resilience.

The study strives to understand how a landscape approach to urban design can be applied to revive and reclaim the drosscapes of Johannesburg.

By reviewing a body of literature surrounding the theme of sustainable urbanism and investigating theories such as landscape urbanism, ecological urbanism, and compact cities, combined with understanding the life cycles of brownfield sites and how these sites can be revived to aid in solving issues faced by the 21st century city, the designer hopes to distill a set of urban design principles that can be applied over a variety of scales and integrated with other disciplines to revive brownfield sites and transform them into productive urban landscapes. Additionally, the designer endeavors to express the value of centrally located land; bridge the divide created by post-industrial landscapes; understand brownfield remediation processes and time-lines; integrate urban programmes and systems and link to and expand existing urban networks, based on the assumption that the drosscapes of Johannesburg possess the latent potential to positively add new dimensions to the current urban condition.

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MUD - Master of Urban Design
(Re)Mining wastelands. A landscape approach to unlocking the
latent potential of Johannesburg's brownfield sites.
2017