

WASTE ARCHITECTURE

FROM A BROWNFIELD TO A RECREATIONAL FACILITY: THE CASE OF THE OLD GABORONE LANDFILL, BOTSWANA

Although landfills are a cheap and environmentally acceptable repository of waste, there are some documented post closure concerns such as visual intrusion of the adjacent land uses, particularly where such sites are in the vicinity of built up areas. For example, Schwarz et al. (2012) found that property values decrease with brownfields such as landfills for up to a mile. Furthermore, concerns over urban sprawl have made it necessary to promote sustainable land use by many European governments through land regeneration incentives and taxation (Doick et al., 2009). There is however an increasing recognition that landfill regeneration is a key element of sustainable urban development. This has by and large driven the urban revival agenda through landfill redevelopments into greenspaces. Rehabilitation of landscapes through planning and design has been found to enhance both ecological attributes and visual preferences of users groups such as property owners in their vicinity.

The old Gaborone landfill in Botswana, is one of such brownfields (see Figure 1). It covers an area of approximately 20 hectares. The landfill was operated beyond its design capacity, hence reaching a maximum elevation of 1018m above sea level. It is sandwiched between an office park to the west – Fairgrounds Office Park, a commercial centre to north – Riverwalk Shopping Centre, Gaborone dam to the south and Notwane River to the east. The landfill is generally barely vegetated. It is visible from most sides of its surrounding developments hence visually intruding them. However, its visual impact from the neighbouring land uses has not been objectively investigated.

Binary visibility analysis and scenario mapping were used to determine the visual impact of the old Gaborone landfill from two observation points of Fairgrounds Office Park and a point on a road that passes adjacent to it. The analysis showed that the landform is generally of high scenic quality, while the vegetation is of low scenic quality (see Table 1). Visual impact assessment on the simulated landscape following showed that the landform is generally of high scenic quality, while the vegetation is of low scenic



FIGURE 1: Aerial View of Old Gaborone Landfill and Disposal Site.

TABLE 1: Landscape attributes.

	Scenic quality		
	High	Medium	Low
Landform	High/steep	Rolling	Flattish
	Isolated	Rounded	No dissections
	Focal points	Broad valleys	No definition
	Distinctive/unusual	Shallow gorges	
	Complex	Small rock outcrops	
	Incised	Regular	
	Strong valley form (V or U)		
	Cliffs		
	Ridges		
	Colour contrast		
Vegetation	Strongly defined	Industrial patterns	Large areas of similar vegetation
	Natural edges	Large clearings	No discernible patterns
	Mix of vegetation within communities	Coarse texture	
	Combination of vegetation types	Slight variations	
	Dramatic seasonal colour	Medium	
	Different shapes and sizes, some tall		
	Irregular		

Adapted from WEDC (2011)

quality. In that respect, it is recommended the City of Gaborone should have a deliberate policy to convert brownfields such as the old Gaborone landfill into green fields particularly where urban sprawl has consumed almost all green spaces.

B. Bolaane *, G. Lethugile, N. Nkhwanana
University of Botswana, Botswana
 * email: bolaaneb@mopipi.ub.bw

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