


# Social constructions of environmental services in a rapidly densifying peri-urban area under dual governance in Durban, South Africa

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**Background:** Biodiversity plays a critical role in improving the quality of life and resilience of poor urban communities in Durban.

**Objectives:** However, the rapid densification that is taking place in the 'rural periphery' of the city is impacting significantly on the integrity of ecosystems, which provide valuable ecosystem services. It is also changing the relations between people and the environment. Mzinyathi and eSkebheni, in the north-west of Durban, are peri-urban areas located on Ingonyama Trust land and hence they are governed by both the traditional authority and the eThekweni Municipality. The settlement pattern is changing rapidly here as middle and upper income residents move into the area, changing the way of life from being rural and 'traditional' to urban and 'modern'.

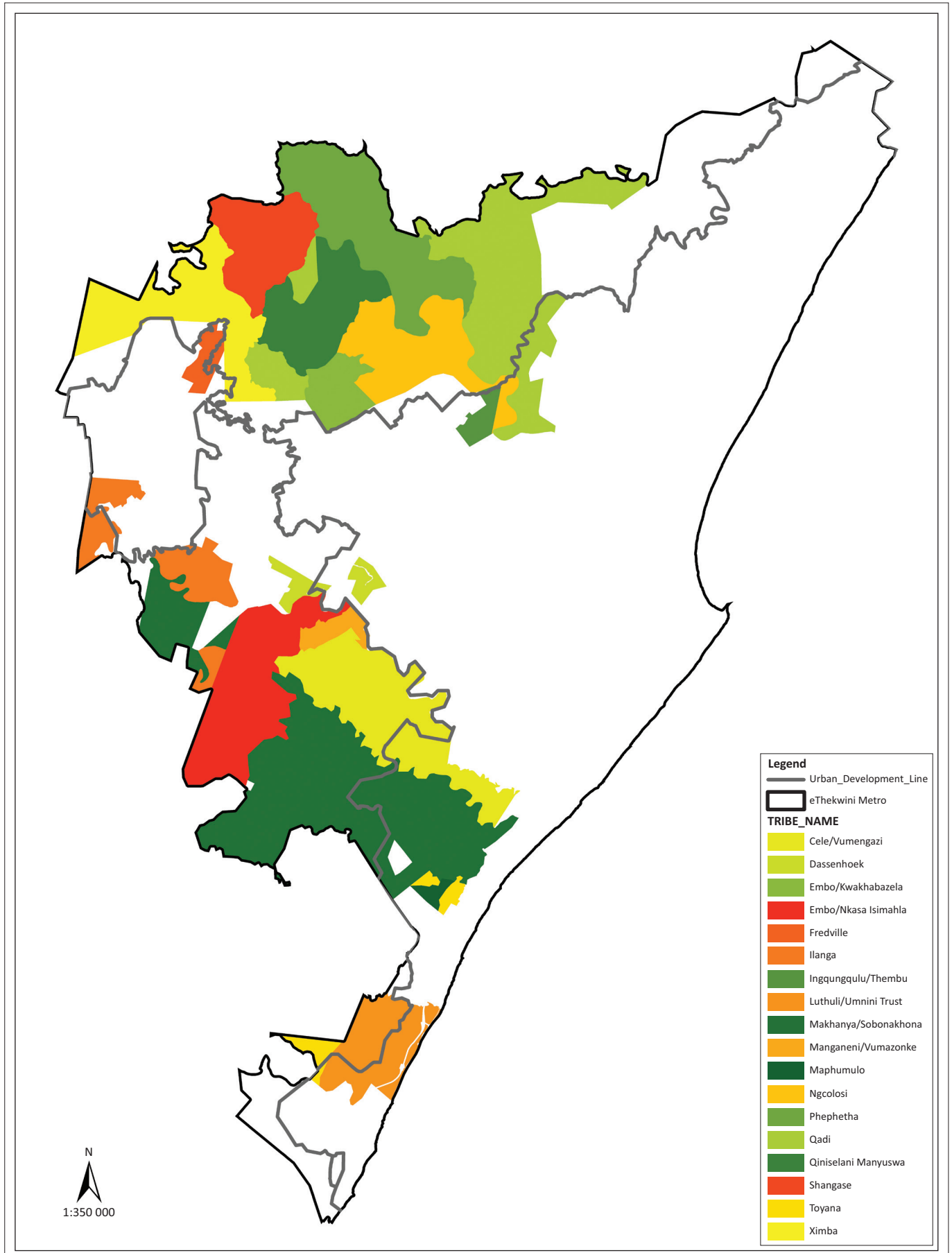
**Method:** This paper focused on the nexus of rapid urban growth, dual governance systems, biodiversity loss and cultural change in these two areas. It adopted a qualitative methodology and social constructivist approach. Data on the value of environmental services in the area was collected through interviewing the traditional authority, provincial and municipal planners and environmentalists, and household members.

**Results:** The paper revealed that environmental services are constructed in multiple ways within a particular socio-historical and political context, that they have value to peri-urban communities, and that their function and use is changing as a result of the 'modernisation' of the area. The impact of the dual governance system and traditional land allocation process on environmental services is significant. This has implications for long term sustainability, for the quality of life of peri-urban residents and for planning and urban governance.

## Introduction

Ongoing urbanisation, the decompression of people from crowded townships within the city, the desire for a 'rural lifestyle', and the availability of land through the traditional land system has led to the rapid densification of rural and peri-urban areas on the periphery of eThekweni Municipality, which is the administrative entity of Durban. Many of these areas are located on Ingonyama Trust land and hence fall under a dual governance system shared by the eThekweni Municipality and the traditional authority. The environmental services of the municipality are predominantly located in this peripheral 'rural' zone, which has formed an ecological buffer for the city. However, the rapid densification of these areas has led to the degradation of the city's natural environmental assets and the environmental services they provide (World Bank 2016).

This paper explores the social construction and value of environmental services within these rapidly changing peri-urban areas of the municipality through the lens of the everyday lived worlds of ordinary people. It focuses on two 'hotspots' of densification located in the north-west of the city, namely Mzinyathi and eSkebheni (see Figure 1). It reflects on how urban change, geographical and historical context, and a dual system of governance shapes human environment relations and hence the social construction and value of environmental services. It therefore aims to re-configure the notion of environmental services to include both context and socio-ecological relations. This is done to challenge the 'neoliberal concept of ecosystem services which has emerged within and alongside the aspirational rhetoric of apolitical, context free technologies of "new public management" (Ernstson & Sorlin 2013)' (Jackson & Palmer 2015:124). Rather, as Jackson and Palmer (2015) argue, the concept of ecosystem services needs to shift from its apolitical and ahistorical reading, and rather be understood through its relational practices of value construction. It is therefore important to trace the social and political trajectories of local practices



Source: eThekweni Environmental Planning and Climate Protection Department 2016

**FIGURE 1:** Traditional authority areas within the eThekweni Municipality.

and decision making so as to understand the changing value of environmental services in particular places at particular times.

The paper first presents the theoretical framing of the concept of environmental services. It then outlines planning and governance arrangements with regard to Ingonyama Trust land. The background to both Mzinyathi and eSkebheni is briefly presented followed by a brief outline of the methodology used in the research. Finally the paper focuses on the social construction of environmental services in Mzinyathi and eSkebheni from the perspective of residents living in the area, reflecting on how socio-ecological relations are shifting and the implications this has for sustainability and resilience.

## Reframing environmental services

Human activities have a major impact on ecosystems and their associated services at both the local and global scale. At the same time, society depends on ecosystem services generated by local environments and global systems for socio-economic well-being and development (Folke 2006; Millennium Ecosystem Assessment [MEA] 2005). The value of environmental assets in addressing poverty and securing improved quality of life in the present, whilst at the same time ensuring a more resilient and sustainable future for all, is well recognised (eThekweni Municipality 2013; Folke 2006; MEA 2005; Swilling & Annecke 2012). The concept of ecosystem services, with its well-established body of literature developed since the late 1970s, focuses on the dependence of society on ecological life support systems (Gómez-Baggethun *et al.* 2010; MEA 2005). The benefit of ecosystem functions to social well-being was initially framed within a utilitarian discourse. This discourse recognises the value of the environment in social development (Pepper 1996). However, even with this early anthropocentric focus, the environmental services concept was also employed to increase public concern for biodiversity conservation (Ehrlich & Ehrlich 1981; Gómez-Baggethun *et al.* 2010).

Costanza and Daly's (1992) seminal work in the field of ecological economics, which explored the relations between and value of natural and human capital, elevated the concept of environmental services to mainstream thinking. This led to greater attention being paid to the valuation of environmental services within economics (Costanza *et al.* 1997; Fromm 2000). The benefits of natural resources, including their 'inherent value, contributory value, indirect value, infrastructure value [and] primary value', have been measured and given monetary value in ecological economics (Fromm 2000:303). In 2005, the MEA (2005) re-defined the concept of ecosystems services in relation to the multiple components of human well-being, including the basic material conditions required for a good quality of life; positive social relations; security; freedom of choice; and freedom to participate meaningfully in society. In the MEA framework, humans are seen as an integral part of ecosystems, with humans and ecosystems continually shaping each other through a dynamic set of

relations (MEA 2005). Based on this broader conceptualisation of human well-being, ecosystem services were defined as provisioning services (such as food, water, timber and fibre); regulating services which affect climate, disease, waste and water quality; supporting services (such as soil formation, plant growth through photosynthesis and nutrient cycling); and cultural services which provide spiritual, recreational and aesthetic benefits (MEA 2005:vi). However, much of the emphasis has been placed on provisioning services, with much less attention being paid to the more complex regulatory, supporting and cultural services (Lankford *et al.* 2011). This undermines resilience and social well-being as decision makers should identify all trade-offs in ecosystem services, including the impact of prioritising one ecosystem service over another (Lankford *et al.* 2011).

The MEA (2005) ensured that ecosystem services were placed firmly on the policy agenda. Research and knowledge on environmental services grew significantly in extent and global influence, with the greatest growth being in ecological economics (Fisher, Turner & Morling 2009; Gómez-Baggethun 2010). Here the focus is on valuing the environment in monetary terms through developing markets for ecosystem services and payments for ecosystem services (PES) programmes (Fromm 2000; Gómez-Baggethun 2010; Jackson & Palmer 2015). It is argued the PES supports conservation and development goals and investment in conservation. It provides new opportunities for the poor and economically marginalised who depend on natural resources (Jackson & Palmer 2015; McAfee & Shapiro 2010; McElwee 2011; Winer, Murphy & Ludwick 2012). Whilst this approach has ensured that environmental services have entered government policy and influenced private and financial actors, it has restructured human-environment relations using a neo-liberal commodity logic (Bakker 2010; Harvey 1996; Jackson & Palmer 2015). As a wide range of ecosystem services have been increasingly included in the monetary valuation methods over the past 30 years, so the critiques of this approach have grown. Many argue that the original purpose of the concept, which was to increase public understanding of and concern for biodiversity, has been lost (Gómez-Baggethun 2010). Others argue that there needs to be a 'conceptual and material shift from a "biophysical basis for value" (Costanza 1991:334) to valuing (in the fullest sense) alternative socio-natures, making them legible in ways which may even upturn the cart of conventional nature-culture thinking and practice' (Jackson & Palmer 2015:123). It is not just the valuing of environmental services that is contested, but also the social construction of environmental services by different actors. This paper focuses on this challenge, as it explores nature-culture relations in a fast changing peri-urban space in Durban.

This 'up-turning' of nature-culture or society-environment relations and the critique of economic and scientific conceptualisations of environmental resources is emerging in other fields of knowledge too. Linton and Budds (2014) argue that the focus in water-society relations has shifted from the

technical management of water through infrastructure provision and scientific expertise to the politics of water, which includes human values, behaviour and organisation. Political ecology provides useful analytical frameworks to critique the incomplete and contested nature of the construction of environmental assets and their use value, revealing power relations and vested interests (Bakker 2000; Kaika 2003; Linton & Budds 2014; Swyngedouw 1995). The ordering and categorisation of environmental resources, such as the framework developed in the MEA (2005) for environmental services, do not adequately recognise the importance of context and politics in the social construction and value of these assets.

This paper identifies and explores the social construction of environmental services in Mzinyathi and eSkebheni, Durban. It does so within the context of the dual governance system of the eThekweni Municipality and the Qadi Traditional Authority, with their different land allocation and planning systems, laws, rules and practices. In so doing, it examines the changing value of environmental services to the urban poor, as their living environment undergoes rapid change within a complicated governance context. It therefore attempts to understand 'at the local scale, the complex processes of change, interdependence and exchange relevant to creating local livelihoods and socio-ecological modes of being' in the configuration of ecosystem services (Jackson & Palmer 2015:134). Examining the history, geography and politics of Mzinyathi and eSkebheni, where the city is currently being 'built from below' (Sutherland *et al.* 2016), it presents a relational and situated value construction of environmental services in an area of the municipality which has been identified in Durban's Spatial Development Framework (SDF) (eThekweni Municipality 2016) as an ecological buffer. See Figure 2 for the location of the Durban Metropolitan Open Space System (D'MOSS) in relation to the Qadi Traditional Authority.

In order to build an understanding of the context within which the social value of environmental services is constructed in Mzinyathi and eSkebheni, it is necessary to provide an overview of the socio-political and governance arrangements of areas that fall under both the municipality and the traditional authority.

## Planning and governance in the rural periphery of eThekweni Municipality

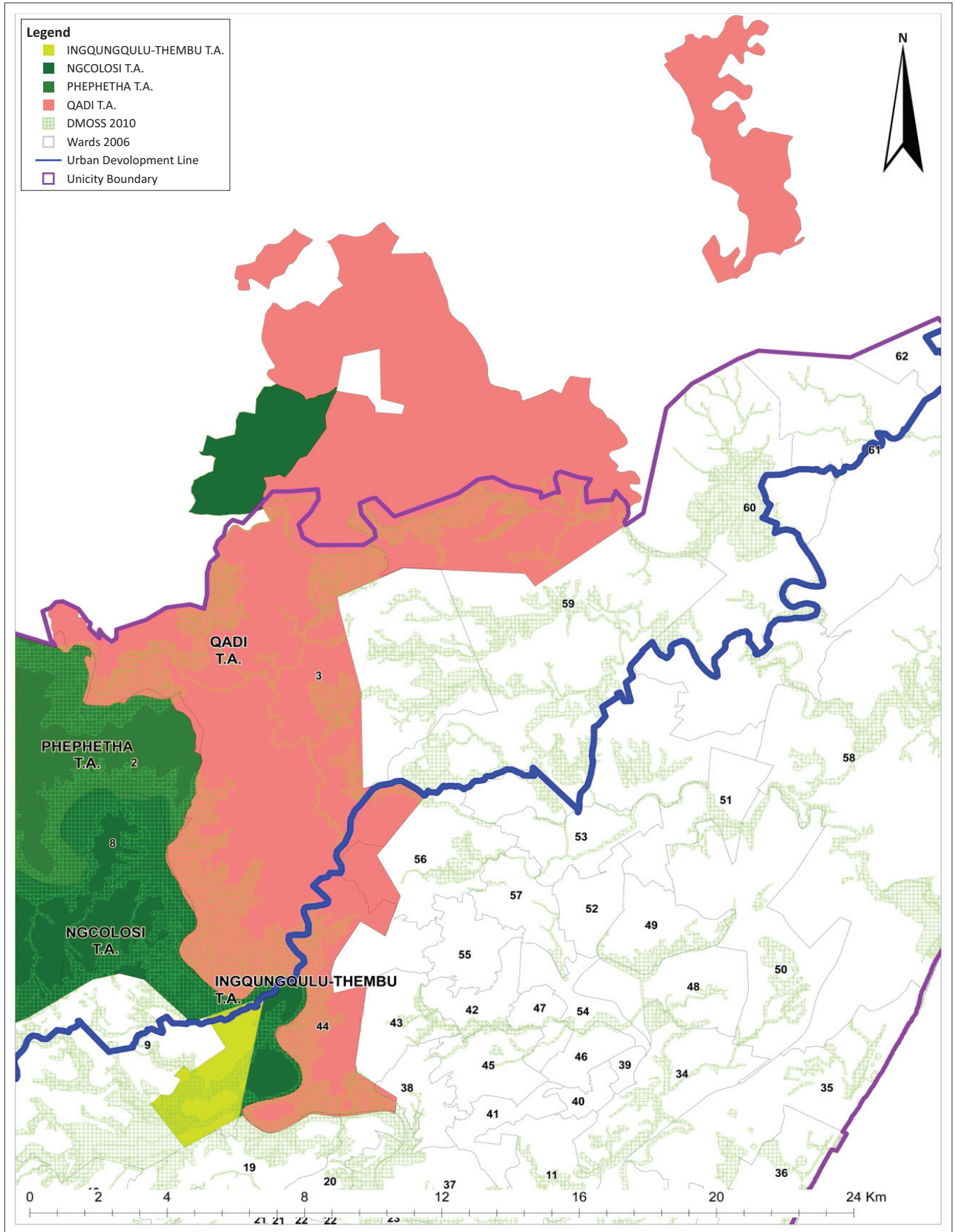
Unlike most metropolitan municipalities in South Africa, governance in the eThekweni Municipality is made more complex by the existence of a dual governance system where 34.8% of the municipal area (comprising 79 913 hectares of Ingonyama Trust land) is governed by both the municipality and traditional councils (see Figure 1) (eThekweni Municipality 2013). The governance environment shifted in 2000 when the municipal area of the previous Durban Metropolitan Council was expanded by 68% to include previously rural and Ingonyama Trust areas. This created a

single metropolitan municipality or unicity, the eThekweni Municipality, as part of the national municipal demarcation process.

The Ingonyama Trust was a product of the political negotiations at the end of the apartheid era. It was set up in 1994 by the erstwhile KwaZulu homeland government through the *KwaZulu Ingonyama Trust Act*, 3 KZ of 1994, to hold the land then owned by the KwaZulu homeland government (Ingonyama Trust Board [ITB] 2014). The sole trustee of the Ingonyama Trust is the Zulu king, King Goodwill Zwelithini. Its mandate is to hold the 2.8 million hectares of trust land across the province for 'the benefit, material welfare and social well-being of the members of the tribes and communities' living on the land (ITB 2014). The land is administered jointly by the ITB and 221 traditional councils. The functions of a traditional council include, amongst others, to allocate land, to administer the affairs of the traditional community in accordance with customs and tradition, to promote service delivery and development in the community together with the local municipality and to promote peace, stability and social cohesion, upholding the traditional values of the community (Republic of South Africa [RSA] 2003).

One of the main aspects of customary law administered by traditional councils is the allocation of land for a range of land uses within their respective traditional authority areas. This aspect of traditional leadership is the most contentious when negotiating the dual governance relationship between the eThekweni Municipality and traditional councils. The land allocation process is also the main driver of change in Mzinyathi and eSkebheni, and hence it has a significant impact on the use and protection of environmental services. The main reason is that the traditional land tenure system, and the way in which it is administered by the traditional councils, does not align with the municipality's strategic spatial plan, the SDF, or the formal planning systems of the municipality. The SDF reflects the approach adopted by the municipality to spatially differentiate the provision of services between rural and urban areas (Sutherland *et al.* 2014) and to manage its ecological infrastructure (environmental services).

Following the creation of the eThekweni Municipality in 2000, the municipal planners prepared the city's first SDF in 2002. One of its main features was an urban edge which contained the urban core, whilst the area beyond the urban edge was defined as peri-urban and rural (Sim, Sutherland & Scott 2016). The intention of the urban edge was to promote sustainable city development through the protection of ecological services in the upper catchment areas located outside of the urban edge, and which largely coincided with the traditional authority areas, whilst encouraging densification in the urban core leading to cost-effective service delivery. As described in Sim *et al.* (2016), the urban edge was not just a spatial development line, but also an infrastructure services line, defining where the municipality



Source: eThekweni Environmental Planning and Climate Protection Department 2016

FIGURE 2: The urban development line in the Qadi Traditional Authority area.

would deliver urban versus rural levels of water and sanitation services<sup>1</sup> (Sutherland *et al.* 2014).

By 2010, the urban edge in the SDF had been replaced by a new concept, the Urban Development Line (UDL). The UDL, is still reflected in the current version of the SDF (eThekweni Municipality 2016). The UDL differed from the urban edge in that it was more explicitly underpinned by an environmental sustainability or resilience perspective to protect the municipality's environmental assets and productive agricultural land. It also introduced the concept of providing for different 'lifestyles' within the municipal area, supporting the municipality's policy of different service levels in traditional areas (with their associated 'rural lifestyles'). Complexities have emerged from the way the UDL was delineated. For example, in the Qadi Traditional Authority area the UDL was delineated along the Mzinyathi River rather than using the Qadi boundary, meaning that the eastern portion of the area is situated within the UDL, and is therefore considered urban and eligible for an urban level of services, whilst the remainder of the area can only expect a rural level of services (see Figure 2).

A major problem with the way that the UDL is defined is that it creates a flawed binary of urban and rural, when in fact the 'rural' traditional authority areas largely located outside of the UDL are transforming rapidly into suburban enclaves (Sim *et al.* 2016), as discussed further on. This transformation is taking place outside of the control of the municipality's Development Planning Department, who are responsible for the administration of the SDF, for a number of reasons. These include the municipality's lack of meaningful engagement with traditional councils around the SDF and its UDL, the fact that the city's land use scheme has not yet been extended into rural areas, a divergent view within the ITB and traditional councils as to what appropriate development on ITB land should be, and a traditional land allocation system which provides an affordable way for people to access land for residential purposes outside of the formal property market, but which threatens the environmental assets in these areas on which the municipality as a whole and these traditional communities depend.

## Disjunctures between municipal and traditional approaches to development

The *Traditional Leadership and Governance Framework Act* (Act No 41 of 2003) (TLGFA) requires traditional councils to participate in the development of policy and legislation at municipal level, in particular in integrated development planning (of which the SDF is part), to promote sustainable development and to minimise disasters that would threaten their community (RSA 2003:4). However, the ITB and local traditional councils, and their respective *amakhosi* and *izinduna*,<sup>2</sup> express a different view to the municipality on

1. A ground tank per household supplied with free basic water of 300 litres per day, a urine diverting dehydration toilet, electricity only in densely settled areas and all-weather roads for public transport in areas with a density of more than 15 units per ha (eThekweni Municipality 2016).

2. Traditional leaders and headmen, in isiZulu.

development on ITB land. As noted by the ITB chairman in the 2013/2014 ITB Annual Report:

I wish to see both local government and Ingonyama Trust Board reaching an agreement in terms of how they would fast track rural development on Ingonyama Trust Land ... Once a common understanding is reached on this point I have no doubt that we could all notice a rapid development free from red tape taking place on ITB administered land (Ngwenya, cited in ITB 2014:12).

A common understanding of the respective roles of the municipality and traditional authorities at traditional council level is that the traditional council is responsible for promoting development through land allocation and maintaining the social aspects of traditional communal life, whilst the municipality and government are responsible for infrastructure services, housing development and disaster management (*Induna*, Qadi Traditional Council 23/04/2015). The ITB chairman contends that ITB land is:

... mixed use in every sense of the word. ... In practice people build whatever they want as long as they have been given consent to have access to a particular piece of land. The problem arises as soon as they seek any formal approval from the local authority. ... As long as there is no general recognition that the development on ... Ingonyama Trust land is not premised on municipal ordinance or legislation but on appropriate understanding and acknowledgement that this land ... was inherently designed that 'the natives' could live their complete lives there for ever, the problem will fester on. ... This is further compounded by those who confuse land tenure legislation with development and planning legislation (Ngwenya, cited in ITB 2014:11).

Whilst the ITB and local authority may have a clear understanding of their respective roles and responsibilities in the dual governance areas of the city in relation to service provision and land allocation, there are significant differences regarding how national planning legislation and planning tools, namely the SDF and land use schemes, are to be applied. All areas of a municipality are required to comply with planning legislation, but its implementation in traditional areas is hampered by land allocation processes that are not aligned with municipal planning. This is a result of the unique political power relations at play, as noted in the ITB comments above. The ITB and its respective traditional councils are wary of and resist the spatial control that municipalities could exert through the implementation of land use schemes in their areas. The purpose of this paper is not to explore these dynamics in detail but rather to focus on their implications for environmental services provision in traditional authority areas.

## The traditional land allocation process

In accordance with customary law, as upheld by the Constitution, traditional councils can allocate ITB land to individuals for a range of purposes.<sup>3</sup> Although, from a legal land perspective, ITB land is regarded by the national

3. The legal debate around communal land tenure and land rights is complex. This paper does not claim to have a full grasp of the legal aspects but focuses rather on how the land allocation process is being administered in practice and its implications for resilience in traditional communities.

Department of Rural Development and Land Reform (DRDLR)<sup>4</sup> as state land, in practice the local *Inkosi* considers the land as belonging to him/the king on behalf of the community (Land Administration Manager, COGTA<sup>5</sup> 02/11/2015; *Inkosi*, Qadi Traditional Authority 06/02/2015). Land allocation generally follows the same process across traditional councils throughout KwaZulu-Natal. It is predominantly an oral process conducted by the *Induna* responsible for the affected portion of the traditional council area. A person interested in acquiring land for residential purposes will either approach the local *Induna* for a piece of land, or will negotiate with an existing resident who has surplus land that they are willing to 'sell' (who will then introduce the individual to the *Induna*). Applying his own criteria, in consultation with the neighbours and the land holder, the *Induna* will determine the piece of land to be allocated to the individual, following which the local *Inkosi* and traditional council will interview the individual. Once the individual has been accepted into the community and the allocation has been agreed to, the individual will pay a '*khonsa fee*',<sup>6</sup> which will be apportioned between the *Inkosi*, *Induna* and the person who has given up/'sold' portion of their allocation to the 'buyer' (Land Surveyor, COGTA 02/11/2015; Respondent 8, 12/03/2016). The individual will then be given a land allocation permit, which is considered legally as a primary land right and transferable to heirs (ITB 2014). Once the allocation process is completed, the individual hosts a meal for the neighbours during which the boundaries of the site are marked out in their presence (Land Surveyor, COGTA 02/11/2015; Local resident 1, 07/03/2016).

According to the ITB (Land Administration Manager, ITB 22/04/2015), all land allocation permits should be formalised with a long-term lease (40-year lease) with the ITB. However, in practice it is predominantly non-residential allocations which are upgraded to lease status through a lease application that is also submitted to the local municipality for their comment and approval, prior to submission to the ITB (Land Surveyor, COGTA 02/11/2015). Residential lease applications are usually only submitted by individuals who require a lease to access a bond from their bank. Thus residential land allocations are seldom submitted to the relevant municipality and the municipality is rarely involved in the land allocation process. Because the eThekweni Municipality land use scheme has not yet been extended over the traditional authority areas, the development that results from these land allocations is not subject to any zoning or building plan requirements or the payment of municipal rates. Combined with the low cost of the *khonsa fee*,<sup>7</sup> the traditional areas offer an affordable land and housing option in contrast to high costs of entering the formal property market. Residents in these areas do not pay rates and taxes and they have access to free basic services. Land allocations also present an income

4. DRDLR is responsible for communal land tenure policy in South Africa.

5. KwaZulu-Natal Department of Cooperative Governance and Traditional Affairs.

6. *Khonsa* means 'an appeal to reside in this area amongst this community' (Land Administration Manager, ITB, 22/04/2015).

7. As low as R2000 for a residential land allocation permit in the Qadi traditional area.

stream for the local *amakhosi* and *izinduna* and those 'neighbours' who 'sell' part of their land acquired through the traditional authority.

In recent years, traditional residential land allocations have increased rapidly in the eThekweni municipal area, creating challenges for the municipality's infrastructure services departments, especially eThekweni Water and Sanitation (EWS) (Sim *et al.* 2016; Sutherland, Scott & Hordijk 2015). Infill development through the reallocation of land has resulted in a densification of the traditional authority areas which is creating challenges for the municipality's infrastructure services model, particularly as many of these newer households are choosing to install their own flush toilets and septic tank systems, often on sites too small to cater for this option (Planner, Strategic Spatial Planning Branch<sup>8</sup> 18/02/2015). Of critical concern to this research is the negative impact of this rapid densification on the environmental services in these areas. As more suitable areas have already been allocated for development, now more marginal and environmentally sensitive land is being allocated, including on steep slopes, within flood lines, forests and wetlands and in the coastal zone. In general, the traditional councils are not applying environmental criteria when allocating land, but transfer that risk to the individual and the municipality should disaster result (*Induna*, Qadi Traditional Council 23/04/2015). A further environmental impact is the rapid increase in sand winning relating to the increased demand for river sand for building purposes (Environmental Education Manager, DEDTEA<sup>9</sup> 09/05/2016).

### Capacitating sustainable land allocation practices

A range of attempts have been made at local and provincial government level to capacitate traditional councils in how they go about the land allocation process, without undermining their traditional authority. COGTA, which is mandated to support traditional councils from an institutional perspective, runs land administration support workshops for traditional councils (Land Administration Manager, COGTA 02/11/2015). These workshops provide land allocation guidelines, including setbacks from rivers and main roads,<sup>10</sup> the protection of the natural environment, such as natural forests grazing and arable land, land reservation for community facilities and adherence to site size standards. DEDTEA has also held environmental capacity building workshops for *amakhosi* (Environmental Education Manager, DEDTEA 09/05/2016). The ITB hosts a forum with municipalities and provincial departments, including COGTA, DEDTEA, Water Affairs and Land Affairs, to attempt to resolve the issues and impacts of traditional

8. Strategic Spatial Planning Branch, eThekweni Municipality.

9. KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs.

10. These include: 30 m from the edge of national roads, 100 m from the traditional council boundary, 15 m from the edge of a provincial road, 8 m from the edge of local roads, 100 m inland from the high-water mark and 100 m from river edges (COGTA n.d.).

land allocation processes in relation spatial planning and environmental management (Environmental Education Manager, DEDTEA 09/05/2016). The eThekweni Municipality's Environmental Planning and Climate Protection Department (EPCPD) has also prepared a guideline document for traditional authorities to guide land allocation processes (eThekweni Municipality 2013). However, because none of these government actors have any authority over traditional councils, other than when legislation can be applied, they can only play an advisory role, and consequently the push for development in traditional areas, the individual demand for land in areas offering a rural lifestyle which is affordable and does not require formal building approvals, and the financial benefits of land allocations continue to override efforts to promote sustainable development.

This section has provided the socio-political context of Mzinyathi and eSkebheni which is leading to the rapid densification of the area and impacting on ecological infrastructure and environmental services. The next section provides the background to the case study area.

## Mzinyathi and eSkebheni: A rapidly densifying peri-urban area

Mzinyathi and eSkebheni are adjacent peri-urban settlements situated on Ingonyama Trust land to the west of the large townships of Inanda and KwaMashu within the eThekweni Municipality (Figure 3).

The Mzinyathi and eSkebheni communities fall under the Qadi Traditional Council headed by *Inkosi* Mqoqi Ngcobo, who was officially inaugurated on 29 October 2015. Spatially, Mzinyathi straddles the UDL as part of the area falls within the urban core, whilst a large portion falls within the rural periphery (Figure 4). Under apartheid, Mzinyathi and eSkebheni were located within the homeland of KwaZulu and hence suffered from the under-development of spatially segregated rural homelands and hinterlands that were located in close proximity to 'white' urban areas. As a result, the area maintained its deep rural and traditional character with residents travelling to work in Durban. A resident of the area stated:

'In many rural areas where there is no electricity and water, people live off cutting trees for wood, they get water from the river, and have cows, sheep and chickens to slaughter whenever they feel like. They make use of the things around them.'  
(Respondent 21, 15/03/2016)

Mzinyathi and eSkebheni initially retained this 'rural' character when they were amalgamated into the eThekweni Municipality as a result of the national demarcation process in 2000. However, after 2000 the eThekweni Municipality, because of its spatially expanded mandates, and its concern for under-development and poverty in the rural periphery of the city, began to deliver a basic level of services to households in the rural periphery. For example, EWS made a policy

decision to provide a universal basic level of services (a ground tank with 9000 L of free basic water per household per month; a urine diverting dehydration toilet; electricity; and all-weather roads). Whilst this universal provision of basic services ensured that the rural poor had access to water and basic sanitation, it also produced spatial inequality in service provision (Sutherland *et al.* 2014). However, it did mean that over 70 000 households who did not have access to water and sanitation prior to 2000 now have access to a basic level of services. The provision of water and basic sanitation to Mzinyathi has altered the relations residents have with rivers in the area, as the results of this study reveal. The Inanda Dam, which was opened in 1989 to supply water to the city of Durban, had a major impact on the area. It led to the displacement of families, many of whom were moved into transit camps or relocated to areas such as Mzinyathi; it decreased the flow of water in the Mzinyathi River; and it changed the spiritual relations residents of the area have with water. This is particularly noticeable in eSkebheni, one of the two case study sites in this research, which is located adjacent to Inanda Dam (Figure 4). The dam lies to the west of Mzinyathi.

Mzinyathi and eSkebheni are currently undergoing a period of rapid transformation. As a result of the rural character of the area, the availability of land through the traditional land allocation process, lower crime rates, the peacefulness of the area, lower cost of living because of low land costs, the provision of free basic services and no property rates, large numbers of people from townships in eThekweni Municipality and from rural areas in KwaZulu-Natal have moved into the area. This has triggered a process of 'city building from below', where ordinary citizens (poor, middle class and wealthy) are constructing houses and adapting and upgrading basic state provided services, thereby modernising and 'sub-urbanising' this peri-urban area.

Figure 5 and Figure 6 show the rapid transformation of Mzinyathi, which has a significant impact on socio-ecological relations and the use and protection of environmental services.

The pace of change in Mzinyathi and eSkebheni is rapid as residents who are moving into the area are able to access land, apply for water and electricity services and build a home, which requires no planning or building approvals, over a very short period of time (usually 6 months to 1 year).

## Methodology

Qualitative methods were used to collect data on both the socio-political context of Qadi Traditional Authority, most particularly Mzinyathi and eSkebheni, and the value and use of environmental services by residents in the area. The research team have been working in Mzinyathi since September 2014, building relationships with the community and the traditional authority around climate and water issues

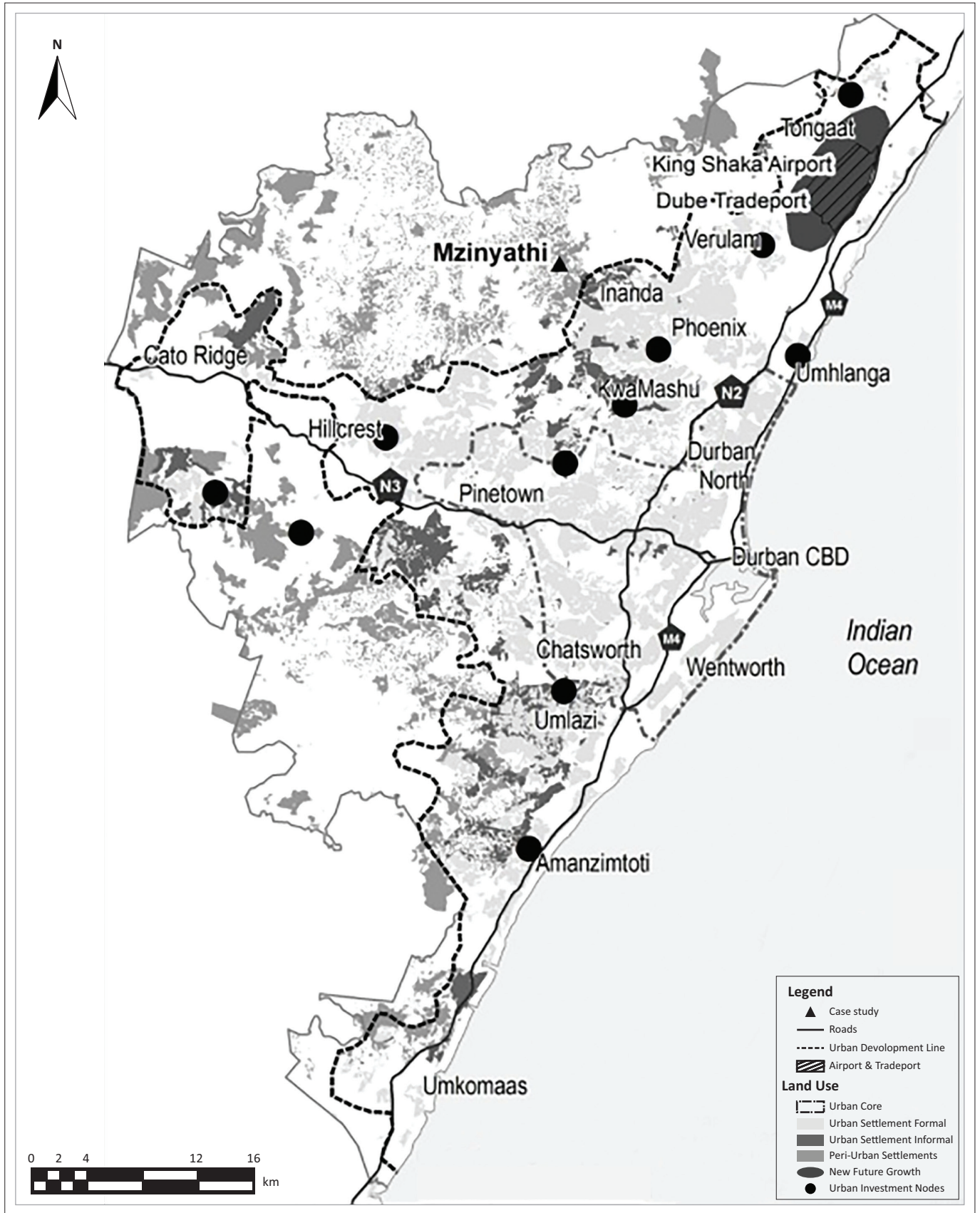


FIGURE 3: The location of Mzinyathi<sup>11</sup> in eThekweni Municipality.

11.eSkebheni is located adjacent to Mzinyathi (to the west).



Source: Google Maps, accessed 08/06/2016

**FIGURE 4:** eSkebhene Road south-east of Inanda Dam.



Source: Photograph taken by Catherine Sutherland

**FIGURE 5:** Traditional households in Mzinyathi.



Source: Photograph taken by Catherine Sutherland

**FIGURE 6:** The 'modernisation' of Mzinyathi.

as part of the SANCOOP-funded Climways project.<sup>12</sup> Permission to conduct research in the area is granted on an ongoing basis through continual engagement with the *Inkosi* and through informing the Councillor's Office. Interviews were conducted in 2015 and 2016 with provincial and local government officials and with the leadership of the traditional authority in Qadi (Table 1). Three interviews were conducted with long-term residents who have a good knowledge of the area and its history and geography. Data was analysed using a thematic approach to illuminate the land allocation and governance processes that are in place in this area and the value of environmental services.

Surveys, using both open and close-ended questions, were conducted with 30 households in central Mzinyathi and 15 households in eSkebhene in April and May 2016. This data provided insight into the social construction, use and value of environmental services in the area and the risk to the sustainability of these services. Participant observation during numerous site visits and recording data through the use of photographs, which capture the living environment of Mzinyathi and eSkebhene, provided additional data and deepened our understanding of the social construction of environmental services within this particular socio-political context.

## Social construction of environmental services in Mzinyathi and eSkebhene

### The value of the living environment in Mzinyathi and eSkebhene

The majority of households interviewed value the rural character, peace and quiet, free basic water, forest and fruit trees, space for food gardens, access to transport, and friendly community in the area. Residents also stated that they value living in Mzinyathi as they can bury their loved ones at home. There is a strong attachment to place in these two well established neighbourhoods: 58% of the households had lived in the area for over 10 years, and 27% had lived there for between 5 and 10 years. Of those interviewed, 11% had lived in Mzinyathi and eSkebhene for under 2 years and so would represent the 'newcomers' in the area. The data shows that 85% of the households interviewed had lived in the area prior to the period of rapid densification and this is reflected in the way in which they construct and reflect on the changes to environmental services in the area. Households obtained their land through the processes described in Section 3 above, where they approached the *Induna* or 'neighbours' to access land and then followed the land allocation process of the traditional authority. Although legally households have an allocation permit which gives them the right to occupy the land, almost all the respondents (98%) stated that they 'owned' their land. This perception has led to the more recent subdivision and sale of land through the 'open secret', through which a fee is paid directly to the person who

<sup>12</sup>The SANCOOP Climways project is funded by the South African National Research Foundation and the Norwegian Research Council.

**TABLE 1:** Interviews with provincial and local government, the traditional authority and long-term residents of the area.

Position	Institution	Tier of government	Date of interview
Inkosi	Qadi Traditional Authority	Traditional council	06/02/2015
Induna	Qadi Traditional Authority	Traditional council	23/04/2015
Land Administration Manager	Ingonyama Trust Board	Provincial government	22/04/2015
Land Administration Manager	COGTA	Provincial government	02/11/2015
Land Surveyor	COGTA	Provincial government	02/11/2015
Environmental Education Manager	DEDETA	Provincial government	09/05/2016
Planner	SSPB	Local government	18/02/2015
Municipal Official	Councillor's Office	Local government	17/11/2015
Local resident 1	Mzinyathi	Ordinary citizen	07/03/2016
Local resident 2	Mzinyathi	Ordinary citizen	13/06/2016
Local resident 3	Mzinyathi	Ordinary citizen	17/11/2015

subdivides their land, over and above the *khonsa* fee (Sutherland *et al.* 2016). Ingonyama Trust land belongs to the state and is administered by the traditional councils, and hence should not be bought or sold. However, the 'open secret' has led to the subdivision of land and the rapid densification of these areas.

This paper argues that socio-ecological relations in peri-urban areas with high levels of biodiversity are being reconfigured at the scale of the everyday lived worlds of ordinary people as a result of the rapid densification of these areas. The following section explores the ways in which these relations are being changed.

### The relations between households and environmental services

Households identified a wide range of environmental services that contribute to their livelihoods and well-being. The majority of residents stated that the development of the area was impacting on the availability and quality of environmental resources. Residents stated that they could no longer access and use some environmental services because 'they are using too much space for building because people are greedy and they are even selling the very small spaces of land' (Respondent 9, 12/04/2016).

#### Valuing water

Two main rivers were identified in the study, namely the Mzinyathi River (Figure 7) and the Hambehlala River, which is a smaller stream. There are many smaller tributaries that flow through the area feeding into these two rivers.

A large number of households use the river for washing and bathing. Children swim and play in the rivers but parents have stated that because of the increasing pollution in the river, children now get skin rashes from the water. In the past, households used to draw drinking water from the river: 'when I grew up we use to fetch water from the river for drinking and cooking but it is not happening today' (Respondent 40, 16/03/2016). However, because of the pollution of the river and the fact that water levels have dropped as a result of the building of the Inanda Dam and the more recent drought, households no longer use the river for drinking water. A local resident (Respondent 48, 16/05/2016) stated:



Source: Photograph taken by Catherine Sutherland

**FIGURE 7:** The Mzinyathi River.

'changing the uMngeni River into a dam was not a good idea because I believe that we should not be having such a shortage of water if uMngeni River is still running like it was before. There were times when we were told not to use the dam water even for watering our gardens because there was poison found in the dam.'

Another resident blamed the pollution of the river on the arrival of 'newcomers', stating that 'the river water was drinkable and was clean but as the houses increase the river gets dirty' (Respondent 3, 12/04/2016). Residents are concerned about the impact of the loss of this environmental service on their health: 'pollution by people has made the river very dirty and we cannot drink it anymore otherwise we get running stomachs, children like to swim and they end up having rashes' (Respondent 29, 15/05/2016). Residents who keep cattle and goats also use the river for drinking water for their animals and for building dipping tanks to dip their cattle for ticks. This practice was criticised by other residents who stated that it polluted the river.

Some residents stated that they no longer need to use the river for water as the municipality now provides them with free basic water. The provision of services in the area has therefore changed the relationship between people and the river. However, residents said they would like to know they could drink the river water as they did in the past, as this provides a good 'safety net' when municipal water is not available. Households in Mzinyathi and eSkebheni are very

aware of the pressure on water supply, as many commented on the impact of the recent drought and urban densification. Residents have stated that wealthy people who are moving into the area are using up all the water with their high consumption and flush toilets, causing water shortages in other areas (Municipal Official, Councillor's Office 17/11/2015).

The rivers in the area and the Inanda Dam, which impacts on eSkebheni residents more directly, plays a significant role in the spiritual and cultural services in the area. Residents were concerned about the lack of water in the Mzinyathi River and the pollution of the river, as this impacted on their cultural and religious practices of spiritual cleansing and baptisms in the river. Some residents stated that the sangomas<sup>13</sup> polluted the river with the spiritual practices they undertake to ward off bad luck. The river provides a service to the sangomas and those they are healing, but their activities produce a disservice to other residents who are concerned about the pollution of the river. Inanda Dam and the rivers in the area invoke stories of the *Inkanyamba*, the 'spiritual' snake that lives in rivers, dams and quarries in KwaZulu-Natal, and which causes disasters. One resident stated 'we saw the dark cloud moving from the dam. It is caused by the snake who had a baby boy and they cannot live together' (Respondent 41 16/05/2016). Residents reported stories of seeing valuable coins in the river, which were put there to shine in the water and attract people to it, only for them to find that the coins disappeared and the snake had now drawn them into the water. There was serious concern about the way the *Inkanyamba* behaved in the dam, particularly towards visitors. Residents reported that visitors including children drowned in the dam as they were attracted to it because of its beauty and cool water for swimming. However, once they were in the water, the *Inkanyamba* drew them in deeper and deeper, causing their bodies to disappear. One resident said 'the snake killed the people who were not from Mzinyathi' (Respondent 35 15/05/2016). These stories invoke fear and reverence in the communities in this area, and impact significantly on their relations with the rivers and the dam. One resident stated that 'the dam does not like visitors because when they swim they sink and die. I hate that dam because it is killing people and they are not found' (Respondent 34, 15/05/2016).

With the rapid densification of the area, 'newcomers' are now building their houses in the floodplain of the rivers and on wetlands. This is of concern to some residents as they know how strongly the Mzinyathi River can flow during periods of heavy rain. Residents stated that during periods of flood children could not cross the river to get home from school and stated that a bridge should be built across the river (Figure 8).

The majority of residents were concerned about how the changes in the area – rapid growth, 'modernisation' and arrival

13. Sangomas are traditional healers in South Africa who perform a wide range of political and social roles. They participate in healing practices and are also responsible for keeping the stories and history of their cultural practices.



Source: Photograph taken by Catherine Sutherland

**FIGURE 8:** High water levels in the Mzinyathi River prevents children from crossing the river.

of 'newcomers' – was leading to the pollution of the river. Residents identified 'pampers' (disposable nappies) being dumped in the river as the biggest challenge to river pollution (Figure 9). Some residents complained about the dead dogs that were dumped in the river. Of even greater concern was the installation of flush toilets in the new builds, where residents connected sewerage pipes that discharge directly into the rivers and small streams (Figure 10). According to a long-term resident of the area 'some of the people that have built houses near the river are using the river as their septic tanks' (Respondent 15, 12/04/2016). One resident of the area stated that 'the community must work together to keep the river water clean' (Respondent 3, 12/03/2016).

Others attribute the change in the environment to the invasion of alien plants. A resident stated that 'we have planted trees that are not needed near the river like gumtrees' (Respondent 15, 15/04/2016) whilst another indicated that the community has tried to address the invasive problem: 'we have asked the government to come and clean and remove alien plants' (Respondent 38, 16/03/2016). However, even with the changes to the quantity and quality of water in the rivers



Source: Photograph taken by Catherine Sutherland

**FIGURE 9:** The use of 'pampers' (disposable nappies) has increased in this area and is now a major pollution problem.



Source: Photograph taken by Catherine Sutherland

**FIGURE 10:** A sewer pipe from a self-installed flush toilet discharging directly into a small stream in Mzinyathi.

here, they still provide valuable services. Baba Shange, a long-term resident who lives close to the forest, has a beautiful garden (with food) throughout the year because he does not rely on municipal water alone but uses the Hambehlala stream which runs from the forest to water his garden.

### Wetlands

Wetlands provide valuable services in the Mzinyathi and eSkebheni area as they slow down the flow of water across

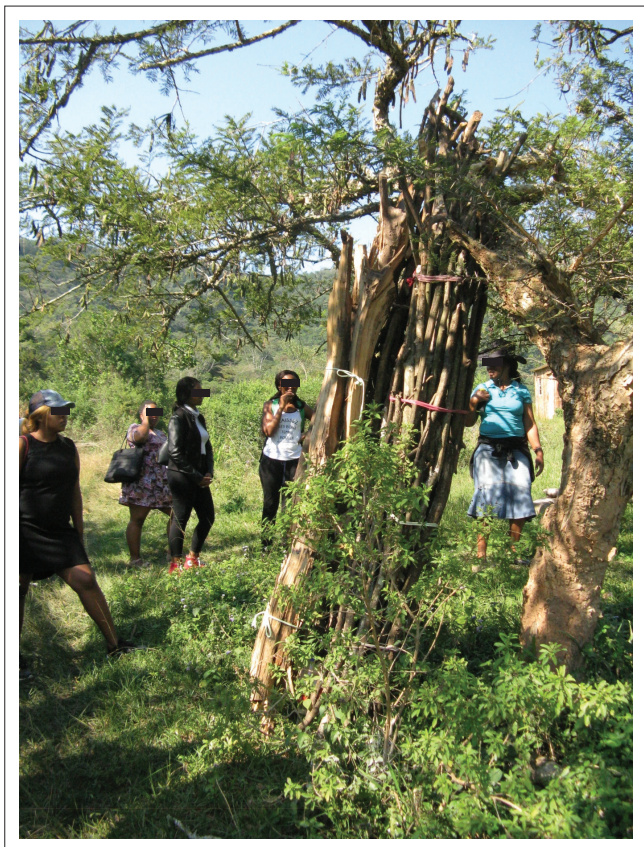
the surface of the land after heavy rain. A resident of the area stated that the wetlands fill up after heavy rain and they hold the water which flows very quickly over the surface because of the steep slopes, the removal of vegetation and the building of houses on the slopes (Local resident 2, 13/06/2016). Residents have had to create drainage channels around their homes because of the increasing flow of water across the surface and flooding of their and their neighbours' houses (Local resident 2, 13/06/2016; Local resident 3, 17/11/2015). As pressure on land in the area is increasing, residents are beginning to build houses in the floodplains and wetlands of the area.

The wetlands also provide *ikhwane*, a reed that is used to make mats for household use and for sale to tourists. The Umkhumbane River, which flowed through eSkebheni near the Inanda Dam, has dried up and is now full of *ikhwane* in the few places where there still are water pools on the floodplain. The women from this area use these long reeds to make mats, which they use in their households and sell to visitors and tourists at the Inanda Dam. One resident indicated that the wetlands were also used for medicinal purposes (Respondent 17, 14/04/2016). Residents also collect and sell wild herbs found in the wetlands (Respondent 38, 16/05/2016). The wetlands are also important for the building of traditional houses as they contain *isidaka* or rich mud which can be used in plastering. *Madumbis*, a valuable source of food, are also grown in the wetlands.

### Forest, trees and grasslands

Residents valued the biodiversity of forests, fruit trees and grasslands in the area. The forests provide provisioning services such as wood for fuel and sticks for building houses, fencing yards and making brooms. They also provide a habitat for animals, and the forests and other trees in the area provide much needed shade, fruits for eating as well as medicinal plants. Shade and the cooling affect provided by trees is a regulating service for both people and the environment in the area. The forest is also home to the many special birds, such as the *isikhonyane* and *insingizi*, which have cultural and spiritual value. Hunting, which is now limited because of the destruction of the forests, is also perceived to be a cultural service by residents, especially in building the relationship between men and boys (Respondent 43, 16/05/2016). Community members also like to walk through the 'beautiful forests'. The forest therefore provides spiritual services. *Mpepho* (incense) for communicating with ancestors is obtained from the forests. Community members collect sticks to make *izikhali*, a staff used by the Shembe and Zionist religions (Figure 11). The Shembe church is very active in this area as the Inanda Mountain is their holy mountain. However, access to these environmental resources is changing, as one resident stated:

'I grew up going to the forest to get wood but today we no longer go to the forest. There are plants like *Maphuthuma* plants that we do not always see, this helps people with stomach ache.' (Respondent 30, 15/05/2016)



Source: Photograph taken by Catherine Sutherland

**FIGURE 11:** Sticks collected from the forest for use in the Shembe church and for making brooms.

The grasslands are provisioning services as they are used for grazing for cattle and goats. However, residents stated that they could no longer keep animals as there was no land for grazing. One resident stated that ‘we need to contact the *Induna* to tell the *Inkosi* that they must leave the space for our cattle’ (Respondent 3, 12/04/2016). Women also used to use the long grass for thatching of their roofs, but this practice has declined as a result of the reduction in grasslands in the area. This impacts on the spiritual services of the grasslands as community members ‘thatch the houses for their ancestors’ (Local resident 2, 13/06/2016). However, this practice is now changing as the area modernises – the smaller ‘ancestor’s rondawels’ are now tiled, ‘modern’ buildings.

The majority of residents stated that the forest and grassland resources were rapidly disappearing as a result of the ‘bushing’ that was taking place in the area. ‘Bushing’ is the practice of removing vegetation to build new houses, as can be seen in Figure 12.

Residents stated that the biggest risk to nature was ‘the cutting down of the forest which will destroy many human benefits for the community’ (Respondent 1, 12/04/2016). This resident felt that ‘the people should approach the *Inkosi* to make the forests a protected area, limiting the house building’ (Respondent 1, 12/04/2016). Another resident stated that ‘the councillor should call a meeting and educate the people about the importance of nature’



Source: Photograph taken by Catherine Sutherland

**FIGURE 12:** ‘Bushing’ of the forest area in Mzinyathi to make space for a new household.

(Respondent 14, 12/04/2016). Data reveals that residents of the area believe that it is both the traditional authority and local authority’s responsibility to manage and limit the development of the area. The loss of an important provisioning and supporting service, that of bees, was noted by a resident of eSkebheni and was attributed to the loss of forests in the area (Respondent 42, 16/04/2016).

Residents have food gardens in their yards. However, some households have stopped gardening as they cannot fence their gardens and so the cattle and goats eat their vegetables. Residents were also concerned that there was no longer enough land available for food gardens, stating that ‘we do not have space to plant because of the land crisis’ (Respondent 15, 12/04/2016). The drought is also affecting food gardens: ‘we have been growing food in the soil but now we have nothing because of the sun burning our food and we ended up doing nothing’ (Respondent 31, 16/03/2016).

### Sand winning

Sand winning presents an interesting example of an environmental service, which through its over-use and lack of management, has turned into a disservice. The building boom in Mzinyathi has created a demand for sand for building and plastering. Small sand winning businesses have emerged all over the area (Figure 13). This has created much needed economic activity and employment in the area. However, some of these businesses are illegal, as they do not have the environmental approval and mineral resources’ permits required to undertake sand winning.

Residents are concerned as they fear the impacts of sand mining. People come from outside and dig holes, which fill up with water. Children love to play and swim in the water but this is dangerous as they can drown (Figure 14). The water is also dirty and creates skin rashes (Local resident 2, 13/06/2016). Sand winning in the river bed also impacts on the flow regime of the river and will impact on flooding in the future, as climate change will result in more storm events and heavier rain in Durban (Figure 15).



Source: Photograph taken by Catherine Sutherland

**FIGURE 13:** A sand winning business in Mzinyathi.



Source: Photograph taken by Catherine Sutherland

**FIGURE 15:** Deep dangerous holes that are left behind by informal sand winning.



Source: Photograph taken by Catherine Sutherland

**FIGURE 14:** The impact of sand winning on the Mzinyathi river bed.

The issue of sand winning is a common problem in other African cities where communal land tenure and rapid urbanisation, combined with the availability of sand, the rapid self-building of houses and poverty drive a negative cycle of environmental risk. In Accra, Ghana, sand winning and stone quarrying is a major source of employment, but with serious environmental consequences (Kasanga & Kotey 2001).

In eThekweni Municipality, formal consent for mining or sand winning must be obtained from the ITB. Mining licenses must also be obtained from the Department of Mineral Resources through the *Mineral and Petroleum Resources Development Act 28 of 2002*. There has been significant conflict between municipal officials and sand winning business operators over rights to sand winning and the issuing of permits, as sand winning does occur illegally in many areas of the municipality.

It is evident from the research that there are a wide range of environmental services that people living in peri-urban areas of eThekweni Municipality have depended on in the past.

However, as a result of rapid development residents are concerned that these environmental assets are disappearing and this is impacting on their way of life. Many residents feel powerless to stop the environmental destruction. However, as stated in this paper, some residents believe that the leadership of the area, both the *Inkosi* and the councillor, should control the allocation of land and stop the 'bushing' that is taking place. Limiting the amount of land allocations and new houses in the area was considered important, but this was difficult to achieve because of the high demand for land and the value it has to those occupying it, in terms of subdivision and sales.

This section has presented the response of ordinary citizens living in Mzinyathi and eSkebheni to the environmental change in their area. It has identified the multiple environmental services that are provided in the area and has revealed the value of these services to residents. The final section reflects on the politics of these changing socio-ecological relations by reflecting on the positions assumed by various actors in this space.

## Conclusion

This paper has explored the social construction of environmental services by residents in a peri-urban area of Durban that is undergoing rapid change. It has revealed the concern residents of the area have for nature and the value of environmental assets, and their understanding of what is being lost in the transformation and 'modernisation' of their neighbourhood. Some residents look toward their spirituality for explanations of what is happening:

'There are many religions in Mzinyathi but those who believe in God only are saying that we are being punished by God. That is why we have forgotten the nature. Those who believe in the Almighty and ancestors, they are saying we are being punished by our ancestors because we no longer have the sound and good rivers that we go and pray to *Unomkhubulwane [the rain guardian]*. Long time ago they use to visit the uMngeni River to pray if there is no rain during summer time.' (Local Resident 1, 07/03/2016)

The loss is not only spiritual but material too. Residents are nostalgic about what they have lost: 'I looked at the time I grew up, everything was easy, enough rain, enough food and we did not go to the town for anything' (Respondent 23, 14/04/2016).

Others believe that education and raising awareness about the value of nature is essential to the community's well-being. Action research can play a role in shifting people's attitudes, as one resident stated: 'if we can have someone teach us and remind us about the nature. Thank you very much for asking these questions and reminding us' (Respondent 28, 15/04/2016). For most households, their changing relations with environmental resources in the area are being driven by the rapid and unplanned densification in the area, over which they feel they have very little control. As one respondent argued,

'the problem of this area is that there is no rule about allocating the site, it will increase crowding. People are greedy and they are selling off their sites where before they would have made a garden.' (Respondent 41, 16/04/2016)

However, areas like Mzinyathi and eSkebheni cannot remain in the past, subject to the under-development that is characteristic of it. Jackson and Palmer (2015:125) believe that 'the relations of indigenous people to resource management are caring and deeply affective, but they are also dynamic, practical, creative and opportunistic'. Whilst residents are concerned about the impact of rapid densification on environmental resources in their area, they are also actors in the land allocation process. As more people move into the area, the pressure on land and environmental resources will increase, as will the tension between long-term residents and 'newcomers'. Class divisions are already appearing in neighbourhoods in Mzinyathi and eSkebheni and this will add to the complexity of the construction and use of environmental services in the area, as the poor tend to rely more heavily on these services than the wealthy.

This study has attempted to move away from external views of nature and environmental services, where the environment is merely conceived of as providing resources for human consumption. It has focused rather on changing socio-ecological relations in a dynamic urban context, thereby producing a more relational and nuanced understanding of environmental services 'within' human worlds. Services are 'co-produced and are influenced or altered by diverse socio-ecological practices and processes as human societies define, delimit and physically reconstitute nature (Castree 2001) under manifold governance and management institutions – laws, beliefs, norms, rules' (Jackson & Palmer 2015:136). The shifting relations between people and nature which are being produced largely through the changing urban context within the rural periphery of eThekweni Municipality, with its dual system of governance and lack of planning and environmental controls, is altering the landscape of environmental services in this area significantly. Context therefore matters, as Norgaard (2010) suggests.

Environmental services are constructed differently in different places because of the historical use of environmental services and their contextuality. The use and protection of ecosystem services need to be understood within a broad socio-political and historical context if the sustainability of these services is to be ensured. Within this context there are multiple actors who establish and contest relations, thereby producing politics and shaping socio-ecological practices in the area. Whilst the role and position of different actors in this space is not the focus of the paper, it is essential to reflect on how the relations between different actors shape the social construction of environmental services that have been presented here. The traditional authority leadership is responding to the demand by the middle and upper class for affordable land in the city, in areas with desirable 'traditional lifestyles'. This process of 'city building from below' is being facilitated and managed by the *izinduna*. Environmental and land management concerns have been raised with traditional leadership (predominantly the *amakhosi*) through the production of environmental guidelines and training by COGTA, DEDTEA, Water Affairs and Land Affairs, however very little of this has been implemented on the ground. In Mzinyathi an *Induna* has been given the responsibility of developing environmental guidelines for the area by the *Inkosi*; however, he reported that he had been busy and hence had not completed this task (*Induna*, Qadi Traditional Council 23/04/2015).

The relationship between the traditional authority (Qadi Traditional Council) and the councillor (Ward 3) is good, which is not the case in all areas under a dual governance system. The councillor's current focus on environmental issues has been largely related to the provision of services and the water crisis, as too much demand has been placed on the water system as a result of the rapid densification and the drought. Further research on the role of the councillor in managing environmental services needs to be undertaken. In particular, the role of the councillor in communicating the concerns of residents about the rapid densification and environmental degradation in the area to the municipality needs to be investigated.

Municipal officials, particularly in the EWS Unit and the EPCPD, have argued that the only way they can currently manage services (both infrastructural and environmental) in the traditional authority areas is through the application of legislation, by-laws and policies that shape planning and development across the municipality, such as the *National Environmental Management Act* (Act 107 of 1998) (NEMA), D'MOSS and land use schemes. NEMA states that activities in areas of high biodiversity are subject to environmental authorisation before land transformation can take place. Given the lack of implementation of NEMA in dual governance areas because of the 'informal' land development process, the destruction of forests, grasslands, sand dunes and illegal sand mining are becoming major threats to biodiversity in rural areas (eThekweni Municipality 2013). According to EPCPD (eThekweni Municipality 2013:6)

'environmental legislation does not take away the Ingonyama Trust Board's mandate over the Trust land or the authority of the Traditional Council to manage the affairs of the Trust land, but regulates the use of the environment and natural resources on that land for the benefit of the people'. All developments or land transformation within D'MOSS (which is now a layer in the city's land use schemes) are subject to approval by EPCPD (eThekweni Municipality 2013). However, the traditional allocation of land for residential use, in the absence of land use schemes, is currently able to bypass DMOSS approval. As D'MOSS is a layer in the city's land use schemes, it therefore offers the most opportunity for ensuring compliance. However, land use schemes are yet to be developed in the traditional authority areas, which is highly contested and complex because of the lack of cadastre, the perception of the *amakosi* that land use schemes will diminish their power and rights, and the rates issue. The recent inclusion of ITB land and the integration of planning in areas of dual governance in Durban's 100 Resilient Cities (100RC) strategy provide an opportunity for new conversations about the management and protection of environmental services in areas like Mzinyathi and eSkebheni to open up. Given the participatory focus of Durban's 100RC programme, it is hoped that multiple actors will be able to come together to construct knowledge about the value of environmental services to resilience and sustainability in traditional authority areas. This is considered critical to Durban's future as these areas currently have high biodiversity which is at risk as a result of rapid development (eThekweni Municipality 2013).

The Working for Ecosystems Programme, which is a PES system that has been developed in eThekweni Municipality by EPCPD, aims to enhance and restore biodiversity through the removal of alien plants. This programme is also linked to the Working for Water Programme established by national government to remove alien plants to enhance water security. The potential to expand the PES system to include a broader range of risks and environmental services in traditional authority areas, as part of a poverty alleviation and biodiversity protection programme, needs to be explored in the future. The research presented in this paper provides insight around the current use and value of environmental services to ordinary people in this area. This 'local value' as well as the value these services provide to the broader municipality could be used to collectively develop innovative and participatory approaches for the protection of ecological infrastructure and its associated environmental services in traditional authority areas. However, this paper argues that both an historical and political reading of this 'story' must be undertaken if 'just sustainability' is to be achieved.

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## Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

## Authors' contributions

All four authors were responsible for the conceptualisation of the ideas in the paper. C.S. and V.S. wrote the main arguments and collected and analysed the data. S.B. and D.K. designed the research instruments, collected and analysed the data and reviewed the paper.

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