

From the guest editors:

**Sijekula Mbanga<sup>1</sup> & Thomas Stewart<sup>2</sup> 2023**

Human settlements are so much more than houses, public open spaces, infrastructure, municipal services, residents, as well as formal and informal settlements. It is indeed a dynamic complex organism or system with many sub-systems, constantly changing for better or for worse. Many of the lessons and experiences of the developed world are of a universal nature, while others are unique to the context of the developing and future developing world.

It can also be argued that, historically, human settlements reflect an evolutionary phenomenon, and thus, while influencing the form and character of urban and rural fabric, they are equally impacted on by multi-layered social, economic, political, and technological changes. Climate change, war, conflict, poverty, global public health, and other pandemics have demonstrated an unimagined influence on the elusive nature of human settlements. Policy-makers, professionals, developers, and scholars alike should understand the task of development and management of human settlements as being context specific.

The major economic output and job opportunities are mainly concentrated in cities and secondary towns in South Africa, sub-Saharan Africa, and generally across the globe. This incentivises the rapid movement of people into these areas of relative opportunity. While cities are associated with promise and opportunity, evidence continues to expose a reality of a systematic exclusion of certain population groupings from meaningfully participating in urban economies for the improvement of the quality of life, hence the conception of 'urbanisation of poverty'.

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Van die gasredakteurs:

**Sijekula Mbanga<sup>1</sup> & Thomas Stewart<sup>2</sup> 2023**

Menslike nedersettings is soveel meer as huise, openbare oop ruimtes, infrastruktuur, munisipale dienste, inwoners, sowel as formele en informele nedersettings. Dit is inderdaad 'n dinamiese komplekse organisme of sisteem met baie subsysteme, wat voortdurend ten goede of slegter verander. Baie van die lesse en ervarings van die ontwikkelde wêreld is van 'n universele aard, terwyl ander uniek is aan die konteks van die ontwikkelende en toekomstige ontwikkelende wêreld.

Daar kan ook geredeneer word dat menslike nedersettings, histories, 'n evolusionêre verskynsel weerspieël, en dus, terwyl dit die vorm en karakter van stedelike en landelike weefsel beïnvloed, word hulle ewe veel beïnvloed deur veelvlakkige sosiale, ekonomiese, politieke en tegnologiese veranderinge. Klimaatsverandering, oorlog, konflik, armoede, wêreldwye openbare gesondheid en ander pandemies het 'n ondenkbare invloed op die ontwykende aard van menslike nedersettings getoon. Beleidmakers, professionele persone, ontwikkelaars en vakkundiges moet die taak van ontwikkeling en bestuur van menslike nedersettings verstaan as konteksspesifiek.

Die belangrikste ekonomiese uitset en werkseleentede is grootliks gekonsentreer in stede en sekondêre dorpe in Suid-Afrika, Afrika suid van die Sahara, en oor die algemeen regoor die wêreld. Die relatiewe geleentede van hierdie gebiede stimuleer die vinnige beweging van mense daarheen. Terwyl stede met belofte en geleentede geassosieer word, toon bewyse steeds dat daar, in werklikheid, 'n sistematiese uitsluiting van sekere bevolkingsgroepe van betekenisvolle

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Ho tsoa ho bahlophisi:

**Sijekula Mbanga<sup>1</sup> & Thomas Stewart<sup>2</sup> 2023**

Metse ea bolulo ha se fela matlo; libaka tsa boithapollo tsa sechaba; ditshebeletso tsa masepala; baahi; metse e hlophisitsoeng le e sa reroang. Metse ena e ka tsoantšisoa le ntho e phelang, e rarahaneng, kapa tsamaiso e nang le mekhahlelo e mengata, e lulang e fetoha ho ho tlisa melemo kapa tšitiso. Bongata ba boithuto le liphihlelo tsa linaha tse tsoetseng pele li amana le lefatše ka bophara ba lona, ha tse ling li ikhethile ho latela maemo a teng le bokamoso ba linaha tse morao ka tsoelopele. Ho ka boela ha hlakisoa hore holatela histori, metse ea bolulo bonahatsa phetoho, 'me joalo ka ha e susumetsa sebopeho sa litoropo le sa mahaeng, ka mokhoa o tsoanang le eona e susumetsoa ke liphetoho tse ngata tsa sechaba, moruo, lipolotiki le thekenoloji. Phetoho ea boemo ba leholimo, lintoa, likhohlano, bofuma, litaba tsa bophelo bo botle ba sechaba lefatšeng ka bophara le mafu a mang a seoa a bontšitse tšusumetso e sa lebelloang holima metse ea bolulo. Mosebetsi oa ntšetsopele le tsamaiso ea metse ea bolulo e lokela ho utloisisoa ho latella maemo a teng ke baetsi ba melao, litsebi, le bahlahisi ka ho tsoana. Litholoana tse kholo tsa moruo le menyetla ea mesebetsi li tsepame haholo litoropong tse kholo le tse mahareng tsa Afrika Boroa, Afrika e ka boroa ho Sahara, le lefats'e ka bophara. Sena se etsa hore batho ba phalle ka potlako libakeng tsena tse nang le menyetla e itseng.

Le hoja metse e mehola e amahanngoa le litšepiso le monyetla, bopaki bo ntse bo tsoela pele ho pepesa 'nete ea ho qheleloa ka thōko ho hlophisitsoeng ha lihlopha tse itseng tsa baahi. Sena se ba sitisa ho kenya letsoho ka mokhoa o tsoetseng moruong oa litoropo bakeng sa ho ntlafatsa boleng ba

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Contemporary urban development discourses, couched in the urban differential theorisation, are increasingly questioning the reliability and potentiality of the modern city as a place of promise and opportunity. This discourse argues for an evolving space, much wider and fluid than the current rigid and heartless space called a city. The Pan African city scholars and pro-inclusive city urbanists make a clarion call for cities and human settlements, in which the hopes and aspirations of all inhabitants are fulfilled, dreams of young and old are nurtured and sustained, and social and economic burdens and privileges are equitably shared across race and class. These are viewed as cities of the future, cities for all, leaving no one behind, excluding no one in urban enjoyments, representing a shift to the origins of humankind. Whilst we are developing a decolonised, uniquely contextual epistemology of human settlements, this cannot happen without the diligent contributions of researchers and academics alike.

*Town and Regional Planning* journal together with the Institute of Human Settlement Practitioners of South Africa (IHSP-SA) has dedicated this journal as a special issue, with a focus on human settlements, contributing to the plethora of debates that characterise the sector and some of its sub-sectors. The collaboration in the compilation of this journal is evidence of the transdisciplinary nature of human settlements, as is the diversity of articles accepted for publication. Having realised the multifaceted and multidimensional nature of human settlements as a phenomenon and eco-system, this special issue is released under the theme: 'Re-imaginaries of just, equitable, resilient and efficient future human settlements'.

This special issue has been enriched by the following scholarly contributions.

**Geci Karuri-Sebina & Frederick Beckley** re-examine the urban redevelopment processes and ecosystems of South Africa to identify why spatial inequality

deelname aan stedelike ekonomieë vir die verbetering van die lewenskwaliteit is; vandaar die konsep van 'verstedeliking van armoede'.

Hedendaagse stedelike ontwikkelingsdiskoerse, gegronde op die stedelike differensiële teoretisering, bevraagteken toenemend die betroubaarheid en potensiaal van die moderne stad as 'n plek van belofte en geleentede. Hierdie diskoers pleit vir 'n ontwikkelende ruimte, baie wyer en vloeibaarder as die huidige rigiede en hartelose ruimte wat 'n stad genoem word. Die Pan Afrikaanse-stad, vakkundiges en pro-inklusiewe-stad, urbaniste maak 'n duidelike oproep vir stede en menslike nedersettings waarin hoop, en aspirasies van alle inwoners vervul word, drome van oud en jonk gekoester en volgehou word, sosiale en ekonomiese laste en voorregte billik is vir alle rasse en klasse. Dit word beskou as 'stede van die toekoms', 'stede vir almal', 'om niemand agter te laat nie', 'niemand van stedelike genot uit te sluit nie', wat 'n verskuiwing na die oorsprong van die mensdom verteenwoordig. Terwyl ons besig is om 'n gedekoloniseerde, unieke kontekstuele epistemologie van menslike nedersettings te ontwikkel, kan dit nie gebeur sonder die ywerige bydraes van navorsers en akademië nie.

*Stads- en Streekbepanning*-joernaal saam met die Instituut vir Menslike Nedersettingspraktisyns van Suid-Afrika (IHSP-SA), het hierdie joernaal opgedra as 'n spesiale uitgawe, met 'n fokus op menslike nedersettings, wat bydra tot die oorfloed debatte wat die sektor kenmerk en sommige van sy subsektore. Die samewerking in die samestelling van hierdie tydskrif is 'n bewys van die transdissiplinêre aard van menslike nedersettings, asook die diversiteit van artikels wat vir publikasie aanvaar word. Nadat die veelvlakkige en multidimensionele aard van menslike nedersettings as 'n verskynsel en ekosisteem besef is, word hierdie spesiale uitgawe vrygestel onder die tema: 'Nuuw verbeelde regverdige, billike en

maphelo a bona. Ka lebaka lena, ho ba le maikutlo a "phallo ea bofuma". Lipuisano tsa mehlang ea kajeno tsa nts'etsopele ea litoropo, tse ipapisitseng le maikutlo a fapaneng a litoropo, li ntse li ipotsisisa ka ho tšepahala le bokhoni ba toropo ea sejoale-joale ele sebaka sa tšepiso le monyetla. Puisano ena e buella sebaka se ntseng se fetoha, se sephara haholo ebile se fetoha habonolo, ho ena le sebaka se teng hajoale, se thata, se se nang pelo, se bitsoang toropo. Litsebi tsa Pan African City le pro-Inclusive City Urbanists li etsa boipiletso bo hlakileng bakeng sa litoropo le libaka tsa bolulo tsa batho, moo tšepo le litabatabelo tsa baahi bohle li phethahalang, litoro tsa ba banyenyane le ba baholo li eloang hloko, meroalo ea sechaba le moruo le litokelo li lekana, 'me ho ena le karolelano e phatlalletseng ka merabe le lihlopha tsa batho ka ho fapana. Metse ena e talingoa e le Metse ea Bokamoso, Metse ea Bohle, e Kenyelletseng Batho Bohle Menyakeng ea Litopopo, e sa Tloheleng Motho ka Morao, e isang phethoho ea tšimoloho ea moloko oa batho. Leha re ntse re nts'etsapele thuto ea borutehi e ikhethileng ea maemo a metse ea bolulo ba batho, sena se ke ke sa etsahala ntle le tlatsetso e matla ea bafuputsi le barutehi ka ho tšoanang.

Koranta ea Meralo ea Litoropo le Libaka hammoho le Setsi sa Litsebi tsa Metse ea Bolulo ba Batho Afrika Boroa (IHSP-SA), e fane ka koranta ena e le khatiso e khethehileng, e tsepamisitseng maikutlo holim'a metse ea bolulo, e tlatsetsang letotong la lipuisano tse amang lekala lena le mafapha a lona. Tšebeliso-'moho ho hlophisoeng ha koranta ena ke bopaki ba hore litaba tsa metse ea bolulo li sebetsoe mafapheng la ho fapana. Sena se boetse se iponahatsa ka mefuta-futa ea lingoliloeng tse amohetsoeng khatisona ena. Ha re se re lemohile sebopeho se likarolo tse ngata-ngata tsa metse ea bolulo ba batho, 'moho le kamano ea sona tsamaisong ea tikoloho, Khatiso ena e khethehileng e lokolloa tlasa mookotaba: 'Menahano e mecha ea metse ea bolulo ba batho ea kamoso

and exclusionary trends, mainly affecting the majority poor non-White population, are being retained. This article adopts Atuahene's concept of 'dignity taking and dignity restoration' (DT/DR) as a lens to unearth the exclusionary effects of gentrification that are noticeable in systematic property deprivation, dehumanisation, and infantilisation of poor non-White South Africans. Theoretically anchoring their argumentation on DT vs DR, the authors posit that the brutal and hostile behaviour of urban land markets in the post-apartheid South Africa constitutes a pathology of DT, which calls for DR policy and practice responses. The article draws on the lived experiences of four urban case vignettes pertaining to dynamics of socio-spatial change in post-apartheid South Africa with focus on gentrification. The article concludes that DT/DR could be used as an urban development lens to gauge progress or lack thereof in achieving the transformation goal espoused in South Africa's Integrated Urban Development Framework enjoining all spheres of government to pursue spatial development initiatives that are underpinned by principles of spatial justice, sustainability, efficiency, resilience, and good administration, leaving no one behind.

**Ayodeji Obayomi, Ayobami Popoola, Samuel Medayese & Bolanle Wahab** examine the liveability challenges faced by the residents of Kabawa informal community, south-east of Lokoja in Nigeria. Primary and secondary data was collected and analysed utilising several research methods and instruments. The study uncovered slum characteristics in the Kubawa neighbourhood, and these include poor housing conditions, poor sanitation, indiscriminate waste disposal, acute lack of basic services, filthy living environments, illiteracy, and poverty. To attain better liveable household and community environments, the authors recommend improved planning and partnership between government and other community development stakeholders. The article concludes by proffering an integrated participatory

doeltreffende toekomstige menslike nedersettings.'

Die volgende wetenskaplike bydraes verryk hierdie spesiale uitgawe.

**Geci Karuri-Sebina & Frederick Beckley** herondersoek die stedelike herontwikkelingsprosesse en ekosisteme van Suid-Afrika om te identifiseer waarom ruimtelike ongelykheid en uitsluitingstendense, wat hoofsaaklik die meerderheidsarm nie-Blanke bevolking raak, behou word. Hierdie artikel aanvaar Atuahene se konsep van 'waardigheidsontneming en waardigheidsherstel' (DT/DR) as 'n lens om die uitsluitingseffekte van gentrifikasie op te spoor wat merkbaar is in sistematiese eiendomsontneming, ontmensliking en infantilisering van arm nie-Blanke Suid-Afrikaners. Teoreties geargumenteer op DT vs DR, beweer die skrywers dat die brutale en vyandige gedrag van stedelike grondmarkte in die post-apartheid Suid-Afrika 'n patologie van 'waardigheidsontneming' uitmaak wat 'waardigheidsherstel'-beleid en praktykreaksies vereis. Die artikel maak gebruik van geleefde ervarings van vier stedelike geval-vignettes wat betrekking het op die dinamika van sosio-ruimtelike verandering in post-apartheid Suid-Afrika met die fokus op gentrifikasie. Die artikel kom tot die gevolgtrekking dat DT/DR as 'n stedelike ontwikkelingslens gebruik kan word om vordering of gebrek daaraan te meet in die bereiking van die transformasiedoelwit wat in Suid-Afrika se Geïntegreerde Stedelike Ontwikkelingsraamwerk voorgestaan word wat alle regeringsfere beveel om ruimtelike ontwikkelingsinisiatiewe na te streef wat deur beginsels van ruimtelike geregtigheid, volhoubaarheid, doeltreffendheid, veerkragtigheid en goeie administrasie, wat niemand agterlaat nie.

**Ayodeji Obayomi, Ayobami Popoola, Samuel Medayese & Bolanle Wahab** ondersoek die leefbaarheidsuitdagings wat die inwoners van Kabawa informele gemeenskap in die gesig staar, suidoos van Lokoja in Nigerië. Primêre en sekondêre data is ingesamel en ontleed met behulp

e sebetsang hantle, e nang le toka le tekatekano.'

Khatiso ena e khethehileng e matlafalitsoe ke tlatsetso ea litsebi tse latelang:

**Geci Karuri-Sebina le Frederick Beckley** ba lekola botjha litšebetso tsa ntlafatso ea litoropo le litikoloho tsa Afrika Boroa ele ho fumana hore na ke hobaneng ha tlhokahalo ea tekatekano libakeng le khethollo ea batho, haholoholo e amang bongata ba batho ba futsanehileng bao e seng Makgowa, li ntse di bolokoa. Sengoliloeng sena se amohela mohopolo oa Atuahene oa 'ho nka seriti le puseletso ea seriti (DT/DR)' joalo ka lense ea ho utolla litlamorao tse sa kenyelletsoeng tsa gentrification tse hlokomelehang mabapi le ho amohuoa thepa ka mokhoa o hlophisehileng, le ho nyenyefatsoa ha MaAfrika Boroa a futsanehileng ao e seng Makhooa. Lingoli tsena li tiisa khang ea tsona mabapi le DT vs DR, ka hore boitšoaro ba limmaraka tsa mobu oa litoropo nakong ea ka mor'a puso ea khethollo ea Afrika Boroa, bo thehile leano la 'Ho Nka Seriti' le hlokang ho lokisoa ka leano la 'Puseletso ea Seriti'. Sengoliloeng se ipapisitse le liphihlelo tsa liketsahalo tse 'ne tsa litoropo mabapi le phetoho ea maemo a bophelo Afrika Boroa ka mor'a puso ea khethollo. Sengoliloeng se phethela ka hore DT/DR e ka sebelisoa joalo ka lense ea ntlafatso ea litoropo ho lekanya tsoelopele kapa khaello ea eona ho fihlela sepheo sa phetoho se lebelletsoeng ke Moralo o Kopanetsoeng oa Nts'etsopele ea Metse ea Litoropo ea Afrika Boroa, e laelang makala ohle a mmuso ho latela maano a nts'etsopele ea libaka a theiloeng ke melao-theo ea toka ea sebaka, botsitso, bokhoni, le tsamaiso e ntle, ho sa siee motho morao.

**Ayodeji Obayomi, Ayobami Popoola, Samuel Medayese & Bolanle Wahab** ba hlahloba mathata a bophelo a tobaneng le baahi ba motse o sa roeroang oa Kabawa, ka boroa-bochabela ho Lokoja Nigeria. Lintlha tsa mantlha le tse ling li ile tsa bokelloa le ho hlahlojoa ho sebelisoa mekhoha le lisebelisoa tse 'maloa tsa lipatlisiso. Patlisiso ena e sibollotse

community-centred development and financial framework.

**Anna de Jager** explores the nexus between development, conservation, and sense of place from a geographical perspective. The Rietvlei Nature Reserve in Tshwane, Gauteng province, South Africa, is used as a case study for the development of a Greenspace Stress Model of Urban Impact. Several research methods were used, concluding that urban growth leads to increasing human needs and expectations regarding the ecological services provided by green spaces. A variety of stressors exist and are intensified by development pressures, administrative boundaries, and insufficient environmental awareness. The author states that successful local strategies support the idea of green space being fit for purpose and meet the expectations justifying its existence. The article concludes that the physical characteristics and functions of an urban green space as well as the environmental perception and sense-of-place evaluations of different stakeholders are important in decision-making about green spaces and sustainability of ecosystem services.

**Zaakirah Jeeva, Juane Cilliers & Trynos Gumbo** review how local administrative boundaries can theoretically be delineated. With urban settlements sprawling beyond urban growth boundaries, due to several factors, administrative boundaries are being restructured to be more accommodating to unplanned growth, thereby setting a clear limit to urban regions. The lack of distinct administrative boundaries creates the scope for certain urban problems such as civil conflict, administrative duplication, environmental and lack of service delivery to become more prevalent. The article also evaluates criteria for the demarcation of boundaries and the resulting structures. It points out that the method of demarcation is not apparent, due to a variety of factors influencing open systems. It provides an awareness of the challenges, administrative and policy implications of determining administrative boundaries. The authors conclude

van verskeie navorsingsmetodes en -instrumente. Die studie het krotbuurt-eienskappe in die Kubawa-woonbuurt ontbloom, en dit sluit in swak behuisingstoestande, swak sanitasie, onoordeelkundige afvalverwydering, akute gebrek aan basiese dienste, vuil leefomgewings, ongeletterdheid en armoede. Om beter leefbare huishoudelike en gemeenskapsomgewings te bereik, beveel die skrywers verbeterde beplanning en vennootskap tussen die regering en ander gemeenskapsontwikkelingsbelanghebbendes aan. Die artikel sluit af deur 'n geïntegreerde deelnemende gemeenskaps-gesentreerde ontwikkeling en finansiële raamwerk aan te bied.

**Anna de Jager** verken die verband tussen ontwikkeling, bewaring en sin vir plek vanuit 'n geografiese perspektief. Die Rietvlei Natuurreservaat in Tshwane, Gauteng provinsie, Suid-Afrika, word gebruik as 'n gevallestudie vir die ontwikkeling van 'n Groenruimte Stres Model van Stedelike Impak. Verskeie navorsingsmetodes is gebruik wat tot die gevolgtrekking gekom het dat stedelike groei lei tot toenemende menslike behoeftes en verwagtinge rakende die ekologiese dienste wat deur groen ruimtes verskaf word. 'n Verskeidenheid stressors bestaan en word verskerp deur ontwikkelingsdruk, administratiewe grense en onvoldoende omgewingsbewustheid. Die skrywer sê dat suksesvolle plaaslike strategieë die idee ondersteun dat groen ruimte geskik is vir doel en voldoen aan die verwagtinge wat die bestaan daarvan regverdig. Die artikel kom tot die gevolgtrekking dat die fisiese kenmerke en funksies van 'n stedelike groen ruimte sowel as die omgewingspersepsie en sin-van-plek-evaluasies van verskillende belanghebbendes belangrik is in besluitneming oor groen ruimtes en volhoubaarheid van ekosisteedienste.

**Zaakirah Jeeva, Juane Cilliers & Trynos Gumbo** hersien hoe plaaslike administratiewe grense teoreties omlyn kan word. Met stedelike nedersettings wat as gevolg van verskeie faktore buite

litšobotsi tsa mekhukhu tikolohong ea Kubawa, 'me tsena li kenyeletsa maemo a mabe a bolulo, tsamaiso e mpe ea likhoerekhoere, ho lahloa ha litšila ka mokhoa o sa amoheleheng, khaello e matla ea litšebeletso tsa mantlha, tikoloho ea bolulo e litšila, ho se tsebe ho bala le ho ngola ha baahi le bofuma. E le ho finyella maemo a amohelehang a malapa le a sechaba, bangoli ba khotlaetsa meralo e ntlafatseng le likamano pakeng tsa 'muso le bankakarolo ba bang ba ntlafatso ea sechaba. Sengoliloeng se phethela ka ho fana ka moralo o kopanetsoeng oa nts'etsopele ea sechaba le moralo oa lichelete.

**Anna de Jager** ena o lekola kamano e teng lipakeng tsa nts'etsopele, paballo, le maikutlo a sebaka ho latela pono ea sebaka. O sebedisa Rietvlei Nature Reserve e Tshwane, profenseng ea Gauteng, Afrika Borwa, e le mohlala bakeng sa ntshetsopele ea Greenspace Stress Model of Urban Impact. Ho ile ha sebelisoa mekhoha e mengata ea lipatlisiso e ileng ea fihlela qeto ea hore kholo ea litoropo e lebisela litlhokong tse eketsehileng tsa batho le litebello mabapi le litšebeletso tsa tikoloho tse fanoang ke libaka tsa thloleho. Ho na le mabaka a fapaneng a bakang sena, 'me a atisoa ke likhatello tsa nts'etsopele, meeli ea tsamaiso le tlhokomeliso e sa lekaneng ka tikoloho.

Sengoli se bolela hore maqheka a atlehileng a sebaka a tšehetsa khopolo ea hore sebaka sa thloleho se loketse ho ananela morero le ho finyeletsa litebello tse tiisang boteng ba sona. Sengoliloeng se phethela ka hore litšoaneleho le mesebetsi ea sebaka sa thloleho sa litoropo hammoho le maikutlo a tikoloho, le litlhahlobo tsa maikutlo a ba amehang ba fapaneng li bohlokoa ha ho etsoa liqeto mabapi le libaka tse tala le ho tšoarella ha lits'ebeletso tsa tikoloho.

**Zaakirah Jeeva, Juane Cilliers & Trynos Gumbo** ba hlahloba hore na meeli ea tsamaiso ea lehae e ka hlaloso joang ka thuto-khopolo. Ha libaka tsa bolulo litoropong li namela ka thoko ho meeli ea kholo ea litoropo ka mabaka a 'maloa, meeli ea tsamaiso e ntse e hlophisoa

that further research and action is required to address this matter.

### **Diana Dahwa, Aldridge Nyasha Mazhindu & Kudzai Chirenje**

present a case study for the identification of a solid-waste disposal site for New City, Harare. New City resulted from the need to accommodate the ever-increasing human population settling in urban areas of Zimbabwe. They made use of remote sensing and GIS to select an appropriate landfill site in an area where a new human settlement, with residential, commercial, and industrial areas is to be developed. Considering the potential negative social, health, and environmental impact of a landfill site, they made use of multicriteria evaluation and weighted overlay analysis methods to select an appropriate landfill site. Five potential sites were identified, taking rivers, settlements, roads, protected areas, and soils into consideration. While 73% of the land in the study area is highly unsuitable for siting a landfill site, only 8% is moderately suitable. Furthermore, the authors developed a real time Web-GIS monitoring interface to monitor the ongoing development of the area and support decision-making by the relevant disciplines.

**Tabaro Kabanda** evaluates the structural design of road networks in Kimberley, South Africa, using spatial network science and open-source OpenStreetMap data. The study leads to a deeper understanding of the road network's spatial organisation, which, in turn, should contribute to more sustainable solutions to the increasing burden on South African road networks. Nonplanar-directed multigraphs were constructed to enable an analysis of the structural and morphological characteristics of the network. Several network-analysis methods were applied, indicating how the legacy of racial segregation, poverty, and isolation from social and economic opportunities, impede access to commerce and services. The results also indicate how the informal sections of Galeshewe have a fine-grained road network, which contrasts with the coarse grain of the Kimberley CBD and surrounding areas.

stedelike groeigrense uitstrek, word administratiewe grense herstruktureer om meer tegemoetkomend te wees vir onbeplande groei en sodoende 'n duidelike beperking op stedelike streke te stel. Die gebrek aan duidelike administratiewe grense skep die ruimte vir sekere stedelike probleme soos burgerlike konflik, administratiewe duplisering, omgewing en gebrek aan dienslewering om meer algemeen te word. Die artikel evalueer ook kriteria vir die afbakening van grense en die gevolglike strukture. Dit wys daarop dat die metode van afbakening nie sigbaar is nie as gevolg van 'n verskeidenheid faktore wat oop sisteme beïnvloed. Dit verskaf 'n bewustheid van die uitdagings, administratiewe en beleidsimplikasies van die bepaling van administratiewe grense. Die skrywers kom tot die gevolgtrekking dat verdere navorsing en aksie nodig is om hierdie saak aan te spreek.

### **Diana Dahwa, Aldridge Nyasha Mazhindu & Kudzai Chirenje**

bied 'n gevallestudie aan vir die identifisering van 'n stortingsterrein vir vaste afval vir New City, Harare. New City het voortgespruit uit die behoefte om die steeds toenemende menslike bevolking wat hulle in stedelike gebiede van Zimbabwe vestig, te akkommodeer. Hulle het van afstandwaarneming en GIS gebruik gemaak om 'n geskikte stortingsterrein te kies in 'n gebied waar 'n nuwe menslike nedersetting, met residensiële, kommersiële en industriële gebiede ontwikkel gaan word. Met inagneming van die potensiële negatiewe sosiale, gesondheids- en omgewingsimpak van 'n stortingsterrein, het hulle gebruik gemaak van multikriteria-evaluering en geweegde oorleg-analise-metodes om 'n geskikte stortingsterrein te kies. Vyf potensiële terreine is geïdentifiseer met inagneming van riviere, nedersettings, paaie, beskermde gebiede en gronde. Terwyl 73% van die grond in die studiegebied hoogs nie-geskik is vir 'n stortingsterrein, is slegs 8% matig geskik daarvoor. Verder het hulle 'n intydse Web-GIS-moniteringskoppelvlak ontwikkel om die voortdurende ontwikkeling van die gebied te monitor en besluitneming

bocha hore e lumellane le kholo e sa roerang ele ho beha moeli o hlakileng oa libaka tsa litoropo. Khaello ea meeli e ikhethileng ea tsamaiso e baka mathata a itseng a litoropong joalo ka likhohlano tsa lehae, phetiso ea tsamaiso, tikoloho le ho ata ha khaello ea phano ea litšebeletso. Sengoliloeng se boetse se hlahloba mekhoe ea ho arola meeli le mehaho e hlahisoang ke tsoelopele e sa roerang. E bontša hore mokhoa oa ho seha meeli ha o bonahale ka lebaka la lintlha tse fapaneng tse susumetsang boitaolo. E fana ka temoso ea liqholotso, tsamaiso le maano a ho hloaea meeli ea tsamaiso. Bangoli ba qetella ka hore ho hloka hlahla lipatlisiso tse ling le mehato ho rarolla taba ena.

### **Diana Dahwa, Aldridge Nyasha Mazhindu & Kudzai Chirenje**

ba tlaleha boithuto bo entsoeng New City, Harare e le ho fumana libaka tse loketseng tsa ho lahlela lithōle. New City, kapa Motse-Mocha, o bakiloe ke tlhoko ea ho amohela palo e ntseng e eketseha ea batho ba lulang litoropong tsa Zimbabwe. Ba ile ba sebelisa remote sensing le GIS ho khetha sebaka se loketseng sa ho lahlela lithōle sebakeng seo ho tla ntlafatsoa bolulo bo bocha ba batho, bo nang le libaka tsa bolulo, tsa khoebo le tsa indasteri. Ba ile ba sebelisa mekhoe e mengata ea ho khetha sebaka se loketseng sa ho lahlela lithōle ba ikamahantse le litlamorao mpe sechabeng, bophelong bo botle le tikolohong ea sebaka sa ho lahlela lithōle. Ba ile ba hlokomela libaka tse hlano tseo e ka 'nang eaba ho na le monyetla oa hore li sebelisoa ho lahlela lithōle. Sen aba se entse ka ho ananela thlokomelo ea linōka, libaka tsa bolulo, litsela, libaka tse sirelelitsoeng le mobu. Le hoja 73% ea mobu o sebakeng sa boithuto o sa tšoanelehe haholo bakeng sa ho sebelisoa ele sebaka sa ho lahlela lithōle, hona le 8% e ka sebelisoang. Ho feta moo, ba thehile sehokelo sa tlhahlobo sa nako ea 'nete sa Web-GIS ho lekola nts'etsopele e tsoelang pele ea sebaka seo, le ho ts'ehetsa ho etsoa ha liqeto ke lihlopha tse amehang.

**Tabaro Kabanda** o lekola moralo oa marang-rang a litsela Kimberley, Afrika Boroa, ka ho sebelisa mahlale

**Wilfred Omollo** examines the extent to which the provision of urban green spaces (UGS), perceived to be declining, conform to areas zoned as UGS in physical development plans (PDPs). Kissi Town in Kenya is used as a case study. The study is anchored in the theory of regulatory compliance. The analysis relied on GIS, descriptive and inferential statistics that indicated a 52% decline in a 75ha area, zoned as UGS, in the period between 2005 and 2022. This lowered the per capita UGS to 1.95 m<sup>2</sup> against the recommended 9 m<sup>2</sup>. The reasons for the decline are sited as developing without permits; permits granted to non-applicants; approval of developments without the mandatory change being approved or applied for; insufficient monitoring of developments; lax enforcing of zoning regulations, and poor involvement of registered architects in the development control process. Recommendations are also made for a revised PDP and the execution of development control, emphasising that the UGS will further decline if not implemented, depriving residents of the benefits thereof.

**Peter Magni, Mari Smith, Helena Jacobs & Natasha Murray** present their unexpected positive findings on the applicability of the differential urbanisation model to the sub-national scale of the Western Cape province and the Cape Winelands district municipality. Their findings may assist in the public division of resources, particularly in small towns, where meaningful urbanisation occurs, yet capital allocations are limited. The applicability of the study is in keeping with trends in planning that emphasise the interrelationship between settlements of different size and function over time and the importance of spatial planning in guiding public infrastructure expenditure.

te doen deur die betrokke dissiplines te ondersteun.

**Tabaro Kabanda** evalueer die strukturele ontwerp van padnetwerke in Kimberley, Suid-Afrika, deur gebruik te maak van ruimtelike netwerkwetenskap en oopbron OpenStreetMap-data. Die studie lei tot 'n dieper begrip van die padnetwerk se ruimtelike organisasie, wat op sy beurt behoort by te dra tot meer volhoubare oplossings vir die toenemende las op Suid-Afrikaanse padnetwerke. Nie-planêr-gerigte multigrafie is gekonstrueer om 'n ontleding van die strukturele en morfologiese kenmerke van die netwerk moontlik te maak. Verskeie netwerkontledingsmetodes is toegepas, wat aandui hoe die nalatenskap van rassese segregasie, armoede en isolasie van sosiale en ekonomiese geleenthede toegang tot handel en dienste belemmer. Die resultate dui ook aan hoe die informele gedeeltes van Galeshewe 'n fynkorrelige padnetwerk het, wat kontrasteer met die growwe graan van die Kimberley SSK en omliggende gebiede.

**Wilfred Omollo** ondersoek die mate waarin die voorsiening van stedelike groen ruimtes (UGS), wat al hoe minder word, ooreenstem met gebiede wat as UGS in fisiese ontwikkelingsplanne (POP's) gesoneer is. Kissi Town, Kenia, word as 'n gevallestudie gebruik. Die studie is geanker in die teorie van regulatoriese voldoening. Die ontleding het gesteun op GIS, beskrywende en afleidingsstatistieke wat 'n 52%-afname in 'n 75ha-area, gesoneer as UGS, in die tydperk tussen 2005 en 2022 aangedui het. Dit het die UGS per capita tot 1.95 m<sup>2</sup> verlaag teenoor die aanbevole 9 m<sup>2</sup>. Die redes vir die afname word beskou as ontwikkel sonder permitte, permitte toegestaan aan nie-aansoekers, goedkeuring van ontwikkelings sonder dat die verpligte verandering goedgekeur of aansoek gedoen is, onvoldoende monitering van ontwikkelings, lakse toepassing van soneringsregulasies, en swak betrokkenheid van geregistreerde argitekte by die ontwikkelingsbeheerproses. Aanbevelings word ook gemaak vir 'n hersiene POP en die uitvoering van

a marang-rang a sebaka le data e bulehileng ea OpenStreetMap. Boithuto bona bo lebisa kutloisisong e tebileng ea marang-rang oa litsela le tsamaiso ea ona, e le ho kenya letsoho ho rarolla mathata a ntseng a eketseha a marang-rang a litsela tsa Afrika Boroa. Li 'nonplanar-directed multigraphs' li ile tsa etsoa ho hlahloba litšobotsi le sebopeho tsa marang-rang a tsela e hlahlobiloeng. Ho ile ha sebelisoa mekhoha e mengata ea ho hlahloba marang-rang, e bontšang kamoo lefa la khethollo ea merabe, bofutsana, le ho itšehla thajana le menyetla ea sechaba le moruo, ho sitisa phihlello ea khoebo le litšebeletso. Liphetho li boetse li bonts'a hore likarolo tse sa roeroang tsa Galeshewe li na le marang-rang a litsela tse ntle, tse fapaneng le tse mpe tsa CBD ea Kimberley le libaka tse haufi.

**Wilfred Omollo** o hlahloba hore na phano ea libaka tsa thloleho litoropong (UGS), e nkoang e fokotseha, e lumellana le libaka tse tšoailoeng e le UGS mererong ea ntlafatso ea libaka (PDPs). Toropo ea Kissi, Kenya e sebelisoa e le mohlala. Boithuto bo thehiloe khopolong ea ho lumellano le taolo. Tšekatšeko e ne e itshetlehlile ho GIS, dipalopalo tse hlalosing tse bonts'itseng phokotseho ea 52% sebakeng sa 75ha, se behiloeng ka UGS, nakong e pakeng tsa 2005 le 2022. Sena se theoletse UGS ka 'ngoe ho ea ho 1.95msq khahlano le 9msq e khothaletsoang. Mabaka a ho fokotseha a hlaloso a le a nts'etsopele ntle le tumello; mangolo a tumello a fuoang bao e seng bakopi; tumello ea lintlafatso ntle le hore phetoho e tlamang e amoheloe kapa e kopeloe; tlhokomelo e sa lekaneng ea tsoelopele; ho se sebetse hantle ha melao ea libaka; ho kenya letsoho ho fokolang ha litsebi tsa meralo tse ngolisitsoeng ts'ebetsong ea taolo ea nts'etsopele. Litlhahiso li boetse li etsoa bakeng sa PDP e nchafalitsoeng le ho phethahatsa taolo ea nts'etsopele, ho hatisa hore UGS e tla fokotseha le ho feta haeba e sa kenngoe tšebetsong, e leng ho amoha baahi melemo ea eona.

**Peter Magni, Mari Smith, Helena Jacobs & Natasha Murray** ba hlalisa liphetho tsa bona tse ntle

ontwikkelingsbeheer, wat beklemtoon dat die UGS verder sal afneem indien dit nie geïmplementeer word nie, wat inwoners van die voordele daarvan ontnem.

**Peter Magni, Mari Smith, Helena Jacobs & Natasha Murray** toon hul onverwagte positiewe bevindinge oor die toepaslikheid van die differensiële verstedelikingsmodel op die sub-nasionale skaal van die Wes-Kaap provinsie en die Kaapse Wynland distriksmunisipaliteit. Hul bevindinge kan help met die openbare verdeling van hulpbronne, veral in klein dorpieë waar betekenisvolle verstedeliking plaasvind, maar kapitaaltoewysings is beperk. Die toepaslikheid van die studie is in ooreenstemming met tendense in beplanning wat die onderlinge verband tussen nedersettings van verskillende grootte en funksie oor tyd en die belangrikheid van ruimtelike beplanning in die leiding van openbare infrastruktuurbesteding beklemtoon.

tse neng li sa lebelloa mabapi le tšebetso ea mohlala o fapaneng oa ho aha litoropo boemong ba profinse ea Kapa Bophirimela le masepala oa setereke sa Cape Winelands. Liphuputso tsa bona li ka thusa kabong ea lisebelisuoa tsa sechaba, haholo-holo litoropong tse nyane moo ho ata ha litoropo ho nang le morero, empa kabo ea lichelete e fokola. Ho sebetsa ha phuputso ena ho tsamaellana le mekhoha ea moralo, e totobatsang kamano pakeng tsa libaka tsa bolulo tse nang le boholo le ts'ebetso tse fapaneng, le bohlokoa ba moralo oa sebaka ho tataisa litšenyehelo tsa litšebeletso tsa sechaba.