From the guest editor:

Hangwelani Hope Magidimisha[1]

Indication of a climatic change is ubiquitous. Cities and communities in both South Africa and Africa are increasingly susceptible to the negative aspects of climate change, which are expected to increase in frequency and intensity, with extreme events such as floods, drought, water stress, rise in sea level, heatwaves and storms, which are highest on the list of exposure to economic and social risks in cities (World Bank, 2019). Concurrently, socio-economic and demographic developments can make cities and communities more vulnerable. These will have profound impacts on a wide range of city and community functions, infrastructure and services such as energy, transport, water, sanitation, and health, and will affect the quality of life. The National Climate Change Response (NCCR) outlines challenges in relation to inertia and risks created by existing investment in infrastructure and mechanisms of service delivery that may not be well adapted to a changing climate. In light of the aforementioned, there is an urgent need for cities and communities to invest in long-term mitigation and preventive measures, in order to improve their resilience.

In the coming decades, building resilience will be an essential urban and regional policy and a smart investment for countries. While many cities are already beginning to build resilience in response to emerging threats associated with climate change, the strategies they are adopting are often win-win results, making them healthier, more attractive places to live in and do business. Resilience is brandable and demonstrates a city's willingness to embrace innovation culture. South Africa has taken several steps toward addressing climate change; this response has mostly been led at the national level, with some larger metropolitan municipalities (metros) also playing a major role.

1 Prof Hangwelani Hope Magidimisha (PhD)
SARChI Chair for Inclusive Cities
Head for Planning and Housing (UKZN)
SACPLAN Board member

Van die gasredakteur:

Hangwelani Hope Magidimisha[1]

'n Aanduiding van klimaatsverandering is alomteenwoordig. Stede en gemeenskappe in Suid-Afrika en Afrika in groter mate is toenemend vatbaar vir die negatiewe aspekte van klimaatsverandering, wat na verwagting sal toeneem in frekwensie en intensiteit met uiterste gebeure soos oorstromings, droogte, waterstremming, seevlakstyging, hittegolwe en storms, wat die hoogste is op die lys van blootstelling aan ekonomiese en sosiale risiko's in stede (World Bank, 2019). Terselfdertyd kan sosio-ekonomiese en demografiese ontwikkelings stede en gemeenskappe kwesbaarder maak. Dit het diepgaande gevolge vir 'n wye verskeidenheid stads- en gemeenskapsfunksies, infrastruktuur en dienste soos energie, vervoer, water, sanitasie en gesondheid, en dit sal lewensgehalte beïnvloed. Die *National Climate Change Response* (NCCR) skets uitdagings met betrekking tot traagheid en risiko's wat geskep word deur bestaande investering in infrastruktuur en meganismes van dienslewering wat miskien nie goed aangepas is vir 'n veranderende klimaat nie. In die lig van die voorgenoemde is dit dringend nodig vir stede en gemeenskappe om te belê in langtermynversagting en voorkomende maatreëls om hul veerkragtigheid te verbeter.

In die komende dekades sal die bou van veerkragtigheid noodsaaklik wees vir stedelike en streeksbeleid en 'n slim belegging wees vir lande. Alhoewel baie stede reeds veerkragtigheid begin opbou in reaksie op opkomende bedreigings wat verband hou met klimaatsverandering, is die strategieë wat hulle aanpak, wen-wen-resultate, wat dit gesonder, en aantrekliker maak om sake te doen. Veerkragtigheid as 'n handelsmerk bewys dat die stad bereid is om innovasiekultuur te aanvaar. Suid-Afrika het verskeie stappe gedoen

1 Prof Hangwelani Hope Magidimisha (PhD)
SARChI Chair for Inclusive Cities
Head for Planning and Housing (UKZN)
SACPLAN Board member

Ho tsoa ho mohlophisi oa moeti

Hangwelani Hope Magidimisha[1]

Ponahalo ea phetoho ea maemo a leholimo e fumaneha hohle lefats'e ka bophara. Litoropo le sechaba sa Afrika Boroa le Afrika ka kakaretso li kotsing ea ho angoa hampe ke litlamorao tsa phetoho ea maemo a leholimo, tse lebelletsoeng ho eketseha ka sekhahla, ka liketsahalo tse kang likhohola, komello, khaello ea metsi, ho phahama ha boemo ba leoatle, maqhubu a mocheso le lifefo, e leng tsona tse kaholimo lenaneng la litlamorao tse tla ama moruo le sechaba metseng e meholo (World Bank, 2019). Ka mokhoa e tšoanang, nts'etsopele ea moruo e ka etsa hore litoropo le sechaba li hlaselehe habonolo. Hona ho ka baka litlamorao tse kotsi mesebetsing e mengata ea litoropo le sechaba, meralo ea motheo le lits'ebeletso tse akhang tsa phepelo ea matla, lipalangoang, metsi, tsamaiso ea likhoerekhoere le bophelo bo botle, 'me li tla ama boleng ba bophelo. Lekhotla la naha le seka-sekanang le phetoho ea maemo a leholimo, eleng National Climate Change Response (NCCR), le hlakisa mathata a bakoang ke khatello le likoluoa tse hlahisitsoeng ke meralo le mekhoa ea phano ea lits'ebeletso e kanna ea se lumellane hantle le maemo a leholimo a fetohang. Ho latela se boletsoeng kaholimo, ho na le tlhoko e potlakileng ea hore litoropo le sechaba li etse matsete a nako e telele a ho fokotsa le ho thibela phetoho ea maemo a leholimo le ho ntlafatsa mamello le tiisetso ea bona maemong ana.

Lilemong tse mashome tse tlang, khaho ea botsitso nakong ea phetoho ea maemo a leholimo e tla ba nthla-kemo ea maano a thero ea litoropo mmoho le matsete a hlalefileng a linaha ka ho fapana.Litoropo tse ngata li se li qalelletse ho aha botsitso ka lebaka la mathata a bakoang ke phetoho ea maemo a leholimo, 'me maano ao ba a sebelisang hangata ke tlisang thlolo, ka hona ebe libaka tse hohelang bakeng sa bolulo le

1 Mop Hangwelani Hope Magidimisha (PhD)
Molula-setulo oa SARChI oa Metse e Kenyelletsang
Hlooho ea Moralo le Bolulo (UKZN)
SACPLAN Setho sa boto

South Africa ratified the United Nations Framework Convention on Climate Change (UNFCCC) in August 1997 and the Kyoto Protocol in 2002. South Africa's 2000 Initial National Communication to the UNFCC catalysed efforts in CCA. In 2004, the country developed its first national climate change response strategy and the following year, it hosted a national climate change summit, integrating the work of scientists and policymakers.

In 2011, South Africa developed the seminal National Climate Change Response White Paper and is currently working on a National Adaptation Strategy (NAS) – known internationally as a National Adaptation Plan (NAP), which defines the government's vision for effective climate change response and transitioning to a climate-resilient, low-carbon economy. The White Paper views local government as critical in building climate resilience through planning development (DEA, 2011). The NAS is meant to standardize adaptation planning and help align sectoral plans (for example, the National Climate Change Health and Adaptation Plan 2014-2019 or the currently in draft Climate Change Response Strategy for Water Resources). The NAS considers urban areas in conjunction with coastal and rural settlements. No specific strategy currently exists for adaptation in urban settlements (as there is for rural areas and planned for coastal areas).

The *Town and Regional Planning Journal*, together with SACPLAN, is dedicating a special issue of the Journal in 2020 to explore how urban and regional planners can achieve this goal of building resilient cities and communities.

Van Aswegen, Retief and Drewes argue that regional resilience can be deducted from the working of three regional policy mechanisms in the Northern Cape. They conclude that, "[t]hrough a process of decentralised concentration (utilising the policy instruments) in both regional growth centres (regional level) and growth points (subregional level), the

om klimaatsverandering aan te spreek; hierdie reaksie is meestal op nasionale vlak gelei, en sommige groter metropolitaanse munisipaliteite (metro's) speel ook 'n belangrike rol.

Suid-Afrika bekragtig die Verenigde Nasies se raamwerkkonvensie oor klimaatsverandering (UNFCCC) in Augustus 1997 en die Kyoto-protokol in 2002. Suid-Afrika se aanvanklike nasionale mededeling van 2000 aan die UNFCC het pogings in CCA gekataliseer. In 2004 het die land sy eerste nasionale strategie vir klimaatsverandering beantwoord, en die jaar daarna was die land gasheer vir 'n nasionale beraad oor klimaatsverandering wat die werk van wetenskaplikes en beleidmakers geïntegreer het.

In 2011 het Suid-Afrika die seminaarboek oor nasionale reaksie op klimaatsverandering ontwikkel en werk tans aan 'n nasionale aanpassingstrategie (NAS) – internasionaal bekend as 'n nasionale aanpassingsplan (NAP), wat die regering se visie definieer vir doeltreffende reaksie op klimaatsverandering en die oorgang na 'n klimaatbestande, koolstofarm ekonomie. Die Witskrif beskou die plaaslike regering as van kritieke belang om klimaatsweerstandigheid te ontwikkel deur beplanningsontwikkeling (DEA, 2011). Die NAS is bedoel om aanpassingsbeplanning te standaardiseer en te help om sektorale planne in lyn te bring (byvoorbeeld, die Nasionale Klimaatsverandering-plan vir gesondheid en aanpassing 2014-2019 of die huidige konsepstrategie vir die reaksie op klimaatsverandering vir waterbronne). Stedelike gebiede word in samewerking met kus- en landelike nedersettings in die NAS oorweeg, en daar bestaan tans geen spesifieke strategie vir aanpassing in stedelike nedersettings nie (soos dit vir landelike gebiede is en vir kusgebiede beplan).

Die *Stads- en Streekbeplanningsjoernaal* dra saam met SACPLAN 'n spesiale uitgawe van die Tydskrif in 2020 op om te ondersoek hoe stedelike en streeksbeplanners hierdie doel kan

khoebo, kaha li ts'episa bophelo bo botle. Botsitso maemong a phetoho ea leholimo a bonts'a boikemisetso ba toropo ho amohela setso sa boqapi. Afrika Borwa e nkile mehato e mmalwa ho shebana le phetoho ea leholimo; mehato ena hangata e etelletsoe pele boemong ba naha, ka bomasepala ba bang ba litoropo tse kholo (metros) ele bona ba bapalang karolo e kholo.

Afrika Borwa e ananetse Tumellano ea Moralo oa Matjhaba a Kopaneng ea Phetoho ea Maemo a Leholimo (UNFCCC) ka Phato 1997 le Tumellano ea Kyoto ka 2002. Puisano ea Pele ea Naha ho UNFCC e matlafalitse boiteko ba CCA. Ka 2004, naha e ile ea hlahisa leano la eona la pele la karabelo ea phetoho ea maemo a leholimo 'me selemong se latelang, e ile ea tšoara seboka sa naha sa phetoho ea maemo a leholimo, se kopanya mosebetsi oa boramahlale le baetsi ba melao. Ka 2011, Afrika Borwa e hlahisitse Leqephe le le Soeu la Karabelo ea Phetoho ea Maemo a Leholimo la Naha mme hajwale le ntse le sebetsa Leanong la Naha la ho Ikamahanya le Maemo a phetoho ea leholimo (NAS) - e tsebahalang machabeng e le Moralo oa Naha oa ho Ikamahanya le maemo (NAP), o hlalosang pono ea mmuso bakeng sa karabelo e sebetsang ea phetoho ea maemo a leholimo le ho fetohela moruong o matlafatsang maemo a leholimo, o hlahisang khase ea carbon e tlase. NAS e reretsoe ho hlophisa moralo oa ho ikamahanya le maemo le ho thusa ho matahanya meralo ea makala (mohlala, Leano la Naha la Bophelo le Phetoho ea Boemo ba Leholimo la 2014-2019 kapa moralo o ts'ebetsong hajoale o tsejoang ka hore ke Morero oa Karabelo ea Phetoho ea Maemo a Leholimo bakeng sa Mehloli ea Metsi). Pampiri e Ts'oeu e nka mmuso wa lehae o le bohlokwa ho aheng boits'oaro ba leholimo ka ho nts'etsapele moralo (DEA, 2011). NAS e shebisisa libaka tsa litoropo ka kopanelo le libaka tsa mabopong le libaka tsa mahaeng. Ha ho leano le ikhethileng hajoale bakeng sa ho ikamahanya le maemo metseng ea litoropo (joalo ka ha ho le teng maano a libaka tsa mahaeng le a reriloeng bakeng sa libaka tse mabopong a leoatle).

resilience capacity of the peripheral region will be enriched".[2]

Hosea and Khalema contend that, while the global response to climate change has been scant and uncoordinated, especially with regard to providing adequate water resources for the most improvised, water scarcity has become an increasingly neglected phenomenon in rural areas. The long-term imbalance resulting from water demand exceeding available water resources has been identified in the literature, with the majority of rural dwellers negatively affected by water scarcity. The major challenge of water scarcity has been recognised in the literature and, based on the current review, a deeper engagement with spatial planning issues is needed to further mitigate and address the impacts of climate change on water security in rural areas. Furthermore, they posit that, although policy research that links the impacts of climate change in rural communities exists, stronger focus on the quality and quantity issues in the implementation of water security matters is critical. Thus, as rural communities deal with the impacts of climate change, implementation cycles of water security measures need to be ensured along with further integration of spatial planning issues in rural areas.

Geraghty examines practice in the UK and Ireland more generally to reflect on the success of attempts to implement the goals in England. He states that the UK's implementation of SDGs has been hindered by its governance arrangements and the perspective that they are primarily for developing countries. This has led to a lack of awareness of the existence and relevance of SDGs. An absence of regional governance coupled with years of perma-reform in planning resulting in policy turbulence has further retarded their adoption in England. Devolution has led to a divergence in planning practice across the UK. The approach outside England has been much more proactive. The Sustainable Development Goals (SDGs) are an

2 Summary written by Prof. Das Steÿn (former Editor).

bereik om veerkragtige stede en gemeenskappe te bou.

Van Aswegen, Retief en Drewes betoog dat streeksweerbaarheid afgetrek kan word van die werking van drie streekbeleidsmeganismes in die Noord-Kaap. Hulle kom tot die gevolgtrekking dat "die weerbaarheidsvermoë van die perifêre streek deur 'n proses van gedesentraliseerde konsentrasie (met behulp van beleidsinstrumente) in beide streeksgroeisentrums (streeksvlak) en groeipunte (substreekvlak) verryk sal word."[2]

Hosea en Khalema beweer dat, hoewel die wêreldwye reaksie op klimaatsverandering skaars en ongekoördineerd was, veral met betrekking tot die verskaffing van voldoende waterbronne vir die mees geïmproviseerde, het die waterskaarste in landelike gebiede 'n toenemend verwaarloosde verskynsel geword. Die langtermyn-wanbalans as gevolg van waterbehoefte wat die beskikbare waterbronne oorskry, is in die literatuur geïdentifiseer, met die meeste landelike inwoners wat negatief geraak word deur waterskaarste. Die grootste uitdaging as gevolg van waterskaarste word in die literatuur erken, en gebaseer op die huidige oorsig, is 'n dieper betrokkenheid by kwessies oor ruimtelike beplanning nodig om die gevolge van klimaatsverandering op die watersekuriteit in landelike gebiede verder te verminder en aan te spreek. Verder is hulle van mening dat, hoewel daar beleidsnavorsing bestaan wat die gevolge van klimaatsverandering in landelike gemeenskappe verbind, 'n sterker fokus op die kwaliteit- en kwantiteitskwessies by die implementering van watersekuriteitsaangeleenthede van kritieke belang is. Aangesien landelike gemeenskappe die gevolge van klimaatsverandering hanteer, moet die implementeringsiklusse van watersekuriteitsmaatreëls verseker word, tesame met verdere integrasie van ruimtelike beplanningskwessies in landelike gebiede.

Geraghty ondersoek die praktyk in die Verenigde Koninkryk en Ierland

2 Opsomming deur Prof. Das Steÿn (voormalinge Redakteur).

Koranta ea Thero ea Litoropo le Libaka (Town and Regional Planning Journal), hammoho le SACPLAN, li nehelana ka khatiso e khethehileng ea koranta ka 2020 ho hlahloba kamoo ba rerang litoropo le libaka ba ka finyellang sepheo sena sa ho aha litoropo le metse e tsitsitseng.

Van Aswegen, Retief le Drewes ba pheha khang ea hore mamello ea tikoloho e ka nts'uoa mekhoeng e meraro ea ts'ebetsong ea maano a tikoloho Kapa Leboea. Ba phethela ka hore, "ka phethahatso ea ts'ebeliso ea matla (ho ananela lisebelisoa tsa maano) litsing tse peli tsa kholo ea tikoloho (boemong ba lebatooa) le lintlha tsa kholo (subregional level), matla a botsitso ba tikoloho a tla ntlafatsoa".[2]

Hosea le Khalema ba pheha khang ea hore, leha karabelo ea lefats'e mabapi le phetoho ea maemo a leholimo e le tlase ebile e sa tsamaellane, haholoholo mabapi le ho fana ka metsi a lekaneng metseng e futsanehileng, khaello ea metsi e se e le ntho e hlokomolohuoang haholo libakeng tsa mahaeng. Lingoliloeng li bots'a ho se lekalekane ha nako e telele ho bakoang ke tlhokeho ea metsi e phahametseng mehloli ea metsi, mme boholo ba baahi ba mahaeng ba anngoe hampe ke khaello ea metsi. Phephetso e kholo ea khaello ea metsi e ananetsoe lithlaiso-leseling mme, ho ipapisitsoe le tlhahlobo ea hajoale, ho hlokahala hore ho be le puisano e tebileng le litaba tsa moralo oa sebaka ho fokotsa le ho sebetsana le litlamorao tsa phetoho ea maemo a leholimo ts'ireletsong ea metsi libakeng tsa mahaeng. Ho feta moo, ba beha hore, leha patlisiso ea maano e hokahanyang litlamorao tsa phetoho ea maemo a leholimo metseng ea mahaeng e le teng, ho tsepamisoa maikutlo ho matla litabeng tsa boleng le bongata ts'ebetsong ea litaba tsa ts'ireletso ea metsi ho bohlokoa ebile ho oa hlokahala. Kahoo, ha sechaba sa mahaeng se sebetsana le litlamorao tsa phetoho ea maemo a leholimo, methati ea ts'ebetso e bopang mehato ea ts'ireletso ea metsi e hloka ho netefatsoa, hammoho

2 Kakaretso e ngotsweng ke Moprofesara Das Steÿn (Mohlophisi wa mehleng).

ambitious and voluntary undertaking by governments to implement sustainable development. Clear, strong leadership at all levels is key to implementing the SDGs, with government and civil society working together. Many countries have been pursuing a process of localisation, in which local and regional priorities are rooted in the implementation of the SDGs.

Mthembu and Hlophe suggest that urban and rural areas in South Africa are vulnerable to climate change implications; however, literature on climate change is often based on an urban perspective. The study highlights that the livelihoods of vulnerable communities in rural areas are also affected by climate change, by focusing on a District Municipality that is predominantly rural in character. They put forward the argument that, in order to counteract the situation facing vulnerable communities, emergent insights on climate change strategies suggest that building resilience in human and environmental systems is the ideal way of dealing with dynamic environmental conditions and future uncertainties. The findings indicate that the adopted climate change approach in the Municipalities' planning documents are technocratic and autocratic, with limited bottom-up participation. There is a need to address climate change implications in the Districts, especially since they mainly affect food security; hence, the study recommends the use of indigenous knowledge and effective climate change awareness, as well as GIS mapping of environmental systems such as dry rivers and alien invasive plants, as this has the potential to mitigate climate change implications.

Myers, Walz and Jumbe point out that Zanzibar faces a challenging landscape for fostering resilient urban communities and planning for mitigation and adaptation to climate change. The rapid pace of urbanization compounds the efforts to plan for resilient communities. The study focuses on urban and

meer algemeen om te besin oor die sukses van pogings om die volhoubare ontwikkelingsdoelwitte in Engeland te implementeer. Hy verklaar dat die implementering van volhoubare ontwikkelingsdoelwitte in die Verenigde Koninkryk belemmer word deur die bestuursreëlings en die perspektief dat dit hoofsaaklik vir ontwikkelende lande is. Dit het gelei tot 'n gebrek aan bewustheid van die bestaan en relevansie van volhoubare ontwikkelingsdoelwitte. Die afwesigheid van streeksbestuur tesame met jarelange permanente hervorming in beplanning, wat gelei het tot beleidsonstuimigheid, het hul aanvaarding in Engeland verder vertraag. Devolusie het gelei tot 'n verskil in die beplanningspraktyk in die Verenigde Koninkryk. Die benadering buite Engeland was baie meer proaktief. Die volhoubare ontwikkelingsdoelwitte is 'n ambisieuse en vrywillige onderneming deur regerings om volhoubare ontwikkeling te implementeer. Duidelike, sterk leierskap op alle vlakke is die sleutel tot die implementering van volhoubare ontwikkelingsdoelwitte met die regering en die burgerlike samelewing wat saamwerk. Baie lande het 'n proses van lokalisering gevolg, waarin plaaslike en streeksprioriteite gewortel is in die implementering van die volhoubare ontwikkelingsdoelwitte.

Mthembu en Hlophe stel voor dat stedelike en landelike gebiede in Suid-Afrika kwesbaar is vir gevolge van klimaatsverandering; literatuur oor klimaatsverandering is egter dikwels gebaseer op 'n stedelike perspektief. Die studie beklemtoon dat die lewensbestaan van kwesbare gemeenskappe in landelike gebiede ook beïnvloed word deur klimaatsverandering, deur te fokus op 'n distriksmunisipaliteit wat hoofsaaklik landelik van aard is. Hulle het die argument aangevoer dat, ten einde die situasie waarmee kwesbare gemeenskappe te kampe het, teen te werk, moet die insig oor klimaatsveranderingstrategieë daarop dui dat die bou van veerkragtigheid in menslike en omgewingstelsels

le khokahanyo e tsoelelletseng ea meralo ea libaka tsa mahaeng.

Geraghty o hlahloba ts'ebetso UK le Ireland ka kakaretso ho nahana ka katleho ea boiteko ba ho kenya tšebetsong merero ea naha Engelane. O bolela hore ho kenya li-SDG ts'ebetsong naheng ea Engelane ho sitisitsoe ke mokhoa oa naha oa puso le le maikutlo a hore li-SDG li etselitsoe linaha tse tsoelopele e fokolang. Sena se bakile khaello ea tsebo ka boteng le bohlokoa ba li-SDG. Ho hlokahala ha puso ea lebatooa hammoho le lilemo tsa phetoho-kholo meralong ea litoropo, o bileng o bakileng pherekano ea maano ho boetse ho liehisitse kamohelo ea li-SDG Engelane. Ho bile le liphetoho tse tlisitseng mekhoa e fapakaneng ea ho rala UK. Mekhoa e lateloang kantle ho naha ea Engelane e kenyeletsa ho nka likhato. Merero ea Nts'etsopele e Tsitsitseng (SDGs) ke boikemisetso le boithatelo bo etsoang ke mebuso ho kenya tšebetsong nts'etsopele e tšoarellang. Senotlolo sa ho kenya li-SDG tšebetsong ke boetapele bo hlakileng, bo matla maemong ohle, ka mmuso le sechaba se sebetsang 'moho. Linaha tse ngata li ntse li latela ts'ebetso ea lehae, moo lintho tsa mantlha tsa lehae le tsa tikoloho li thehiloeng ts'ebetsong ea li-SDG.

Mthembu le Hlophe ba fana ka maikutlo a hore libaka tsa litoropo le tsa mahaeng Afrika Boroa li kotsing ea ho angoa ke phetoho ea maemo a leholimo; leha ho le joalo, hangata lingoliloeng tse mabapi le phetoho ea maemo a leholimo li ipapisitse le litlamorao tse etsahalang litoropong. Phuputso e totobatsa hore mekhoa ea boipheliso ea sechaba se tlokotsing libakeng tsa mahaeng le eona e angoa ke phetoho ea maemo a leholimo, 'me ba tsepamisa maikutlo ho Masepala oa Setereke eo boholo ba metse oa eona e leng ea mahaeng. Ba hlakisa hore, e le ho loants'a boemo bo tobaneng le sechaba se tlokotsing, leseli le hlahang mabapi le maano a phetoho ea maemo a leholimo le fana ka maikutlo a hore ho aha botsitso litsing tsa batho le tsa tikoloho ke tsela e nepahetseng ea ho sebetsana le maemo a

environmental planning measures from 2010 to 2020 aimed at confronting the impacts of climate change and working toward resilience, mitigation and adaptation in urban Zanzibar. The argument is that planning for climate change requires greater social will and financial investment than currently exist in Zanzibar. Dynamic individual and governmental efforts and select community engagement do not suffice to produce resilience. The study concludes with policy recommendations specific to Zanzibar and relevant across the region.

Kasim, Agbola and Oweniwe allude that, although there are natural drivers of climate change, the urbanization process, contributing to increasing greenhouse gases emission, has been adjudged to be one of the major factors influencing spatial variation in the land surface temperature (LST), land surface emissivity (LSE), and climate change. The spatio-temporal trends of LST were identified to be related to the changes in Land Use Land Cover change (LULC); the built-up area had the highest LSE. The highest LST (43°C) was observed in 2018 at the core area of the city where building density was highest. The study suggests an application of cool pavements, green development and urban forest regeneration for sustainable development.

Ola examines the effects of urban planning practice on urban agriculture (UA) in Ilorin, Nigeria, and how it has contributed to improving the resilience of the city to food shock. Findings reveal that UA contributed 16.9% to meat/fish/egg requirements in the city; 4.5% to yam/cassava/potato; 0.58% to vegetable requirements; 0.6% to fruits requirements, and 0.5% to grain requirements. RAI results indicate poor access to finance (0.93), limited land area (0.75), and lack of tenure security (0.44) as the dominant variables influencing poor contribution of UA to food security. Integrating UA into urban planning and provision of ample land for farming are recommended.

die ideale manier is om dinamiese omgewingstoestande en toekomstige onsekerhede te hanteer. Die bevindings dui aan dat die aangenome benadering tot klimaatsverandering in die munisipaliteit se beplanningsdokumente tegnokraties en outokraties is, met beperkte deelname van onder na bo. Die aanspreek van die gevolge van klimaatsverandering in die distrik is nodig, veral omdat dit hoofsaaklik voedselsekerheid beïnvloed; daarom beveel die studie die gebruik van inheemse kennis en effektiewe bewustheid van klimaatsverandering aan, sowel as GIS-kartering van omgewingstelsels soos droë riviere en uitheemse indringerplante, want dit kan die gevolge van klimaatsverandering versag.

Myers, Walz en Jumbe wys daarop dat Zanzibar voor 'n uitdagende landskap te staan kom vir die bevordering van weerbare stedelike gemeenskappe en beplanning vir die versagting en aanpassing by klimaatsverandering. Die vinnige tempo van verstedeliking vergroot die pogings om weerbare gemeenskappe te beplan. Die studie het gefokus op stedelike en omgewingsbeplanningsmaatreëls van 2010 tot 2020 wat daarop gemik is om die gevolge van klimaatsverandering die hoof te bied en te werk aan veerkragtigheid, versagting en aanpassing in stedelike Zanzibar. Die argument is dat beplanning vir klimaatsverandering groter maatskaplike wil en finansiële belegging verg as wat tans in Zanzibar bestaan. Dinamiese individuele en regeringspogings en uitgesoekte betrokkenheid by die gemeenskap is waarskynlik onvoldoende om veerkragtigheid te bewerkstellig. Die studie word afgesluit met beleidsaanbevelings, spesifiek vir Zanzibar, en relevant in die hele streek.

Kasim, Agbola en Oweniwe gee te kenne dat, hoewel daar natuurlike dryfvere vir klimaatsverandering is, die verstedelikingsproses, wat bydra tot die toename in die uitstoot van kweekhuisgasse, beskou word as een van die belangrikste faktore wat die ruimtelike variasie in die

tikoloho le liphapang tse tlisoang ke bokamoso. Liphetho li supa hore mokhoa o amohetsoeng oa ho seka seka phetoho ea maemo a leholimo litokomaneng tsa meralo ea Masepala ke o hatellang ebile o ikemetse, o sa natse maikutlo a sechaba. Ho na le tlhoko ea ho sebetsana le litlamorao tsa phetoho ea maemo a leholimo Literekeng, haholo hobane li ama ts'ireletso ea lijo; ka hona, phuputso e khothaletsa ts'ebeliso ea tsebo ea matsoalloa le tlhokomeliso e sebetsang ea phetoho ea maemo a leholimo, hammoho le 'mapa oa GIS oa litsamaiso tsa tikoloho joalo ka linoka tse ommeng le limela tse sa tsoalloang libakeng tseo, kaha sena se na le monyetla oa ho fokotsa litlamorao tsa phetoho ea maemo a leholimo.

Myers, Walz le Jumbe ba supa hore Zanzibar e tobane le phephetso ea ho matlafatsa botsitso ba sechaba se phelang litoropong le ho etsa meralo e khinang le ho ikamahanya le phetoho ea maemo a leholimo. Kholo e potlakileng ea litoropo e siitisa boiteko ba ho rala sechaba se tsitsitseng. Phuputso ena e shebile haholo mehato ea meralo ea toropo le tikoloho ho tloha 2010 ho isa 2020 e neng e reretsoe ho tobana le litlamorao tsa phetoho ea maemo a leholimo le ho sebeletsa ho ba le botsitso, ho fokotsa le ho ikamahanya le maemo toropong ea Zanzibar. Khang ke hore ho rerela phetoho ea maemo a leholimo ho hloka thahasello e kholo ea sechaba le tsetelo ea lichelete e phahameng ho feta e teng hajoale Zanzibar. Boiteko bo matla ba motho ka mong le ba mmuso le ho khetha boitlamo ba sechaba ha boa lekana ho hlahisa botsitso le mamello nakong ea phetoho ea maemo leholimo. Phuputso e phetheloa ka likhothaletso tsa maano tse tobileng Zanzibar le tse amehang ho latela sebaka seo ka kakaretso.

Kasim, Agbola le Oweniwe ba hlokomelisa hore, lehoja hona le lisosa tsa thlaho tsa phetoho ea maemo a leholimo, lipalo tse phahameng tsa batho ba fallelang litoropong, le tsona li kentse letsoho keketsong ea likhase tse futhumatsang lefatše, 'me ke e 'ngoe ea lisosa tse kholo tse susumetsang phapano ea mocheso oa mobu (LST), likhase tse tsoang lefats'eng (LSE), le phetoho ea maemo a leholimo. Mekhoa

Van Niekerk, Pieterse and Roux describe the steps involved in the process of developing and structuring this menu of actions, and explains how the information contained in the Green Book can be used to promote the planning of climate-resilient settlements in South Africa. The Green Book is not a book, but a novel, practical online planning tool to support the adaptation of South African settlements to the impacts of climatic changes and severe events. It provides evidence of current and future (2050) climate risks and vulnerability for every local municipality in South Africa (including at a settlement level) in the form of climate change projections, multi-dimensional vulnerability indicators, population growth projections, and climate hazard and impact modelling. Based on this evidence, the Green Book develops a menu of planning-related adaptation actions, and offers support in the selection of appropriate actions from this menu to be integrated into local development strategies and plans.

Brand and Drewes point out that the regional corridor networks, as a potential spatial targeting instrument, might not be the only solution in transforming the local challenges of inequality, unemployment and poverty facing South Africa; it does, however, re-orientate attention to the potential of regional centres as development nodes. By considering the 'economic potential' and 'gravitational analysis' as measurement outcomes of the regional corridor network model, they found that they could show which centres are emerging as preferred locations for creating development opportunities to enhance economic growth. Unfortunately, the data used was for a South Africa before the world economic reset experienced in 2020.[3]

Sinxadi, Awuzie and Campbell argue that a fixation on well-established primary cities studies of the extinction of urban public open spaces has been noticed, whilst limited attention has been paid to emerging secondary cities. They further ague that enablers of urban public open space encroachment

3 Summary written by Prof. Das Steÿn (former Editor).

landoppervlaktemperatuur (LST), emissievermoë op die landoppervlak (LSE) en klimaatsverandering beïnvloed. Die ruimtelike-tydelike neigings van LST is geïdentifiseer as verwant aan die veranderinge in grondgebruikverandering (LULC); die beboude gebied het die hoogste LSE gehad. Die hoogste LST (43°C) is in 2018 waargeneem in die kerngebied van die stad waar die gebou se digtheid die hoogste was. Die studie dui op die toepassing van koel sypaadjies, groen ontwikkeling en stedelike bosvernuwing vir volhoubare ontwikkeling.

Ola ondersoek die gevolge van stedelike beplanningspraktyk op stedelike landbou in Ilorin, Nigerië, en hoe dit daartoe bygedra het om die stad se veerkragtigheid vir voedselskok te verbeter. Bevindinge het aan die lig gebring dat stedelike landbou 16.9% bygedra het tot vleis/vis/eierbehoeftes in die stad; 4.5% tot yam/cassava/aartappel; 0.58% aan groentebehoeftes; 0,6% aan vrugtebehoeftes, en 0.5% aan graanbehoeftes. RAI-resultate het aangedui dat swak toegang tot finansiering (0.93), beperkte oppervlakte (0.75) en gebrek aan verblyfsekerheid (0.44) die dominante veranderlikes was wat die swak bydrae van UA tot voedselsekerheid beïnvloed. Stedelike landbou word aanbeveel in stedelike beplanning en die voorsiening van voldoende grond vir boerdery.

Van Niekerk, Pieterse en Roux beskryf die stappe wat betrokke is by die ontwikkeling en strukturering van 'n lys van aksies, en verduidelik hoe die inligting in die Groenboek gebruik kan word om die beplanning van klimaatsbestande nedersettings in Suid-Afrika te bevorder. The Groenboek is nie 'n boek nie, maar 'n nuwe, praktiese aanlynbeplanningsinstrument om die aanpassing van Suid-Afrikaanse nedersettings aan die gevolge van klimaatsveranderinge en ernstige gebeure te ondersteun. Dit lewer bewyse van huidige en toekomstige (2050) klimaatsrisiko's en kwesbaarheid vir elke plaaslike munisipaliteit in Suid-Afrika (ook op 'n nedersettingsvlak) in die vorm van projeksies oor klimaatsverandering, multidimensionele kwesbaarheidsindikators, bevolkingsgroei en klimaatsgevaar, en impakmodellering. Op grond

ea nakoana ea LST libakeng e fumanoe e amana le liphetoho tsa ts'ebeliso le koahelo ea mobu (LULC); 'me libaka tse ahiloeng li ne li na le LSE e phahameng ka ho fetisisa. LST e phahameng ka ho fetisisa (43 ° C) e bonahetse ka 2018 sebakeng sa mantlha sa toropo moo bongata ba meaho e neng e le mekato e mengata ka ho fetesisa. Phuputso e fana ka maikutlo a ts'ebeliso ea litsela tsa maoto tse phlisitsoeng, nts'etsopele ea botala le nchafatso ea meru litoropong ele ho netefatsa nts'etsopele e tsitsitseng.

Ola o hlahloba litlamorao tsa ts'ebetso ea meralo ea litoropo temong ea litoropong (UA) toropong ea Ilorin, Nigeria, le hore na e kentse letsoho joang ho ntlafatseng botsitso ba toropo khaellong ea lijo. Liphuputso li senola hore UA e kentse 16.9% ho litlhoko tsa nama / tlhapi / mahe toropong; 4.5% ho ea yam / cassava / litapole; 0.58% ho latela litlhoko tsa meroho; 0,6% ho ea ho litlhoko tsa litholoana, le 0.5% ho litlhoko tsa lijo-thollo. Liphetho tsa RAI li bonts'a phihlello e fokolang ea lichelete (0.93), sebaka se lekanyelitsoeng sa mobu (0.75), le khaello ea ts'ireletso ea nako (0.44) e le mefuta e meholo e susumetsang monehelo o mobe oa UA ho ts'ireletso ea lijo. Ba khothaletsa ho kopanya UA meralong ea litoropo le ho fana ka mobu o lekaneng bakeng sa temo.

Van Niekerk, Pieterse le Roux ba hlalosa methati e amehang molemong oa ho nts'etsapele le ho hlophisa lenane lena la liketso, hape ba hlalosa hore na tlhaiso-leseling ea Buka e Tala (Green Book) e ka sebelisoa joang ho ntšetsa pele moralo oa libaka tsa bolulo tse matlafatsang maemo a leholimo naheng ea Afrika Boroa. Buka ena hase buka fela, empa ke sesebelisoa se setja, se batsi, se ka hokahangoang le marangrang ho ts'ehetsa tloaelo libaka tsa bolulo tsa Afrika Boroa litlamorao le lits'uts'umetsong ts tlisoang ke liphetoho tsa maemo a leholimo le likoluoa. E fana ka bopaki ba likotsi tsa phetoho ea maemo a leholimo ba hajoale le ba nakong e tlang (2050), le litlokotsi tse amang masepala e mong le e mong oa lehae Afrika Boroa (ho kenyeletsoa le maemong a bolulo), 'moho le sebopeho sa likhakanyo tsa phetoho ea maemo a leholimo, lits'oants'o tsa mekhahlelo ea phetoho, likhakanyo tsa kholo

in emerging cities using Mangaung Metropolitan include low levels of sustainability literacy, low levels of citizen participation in the planning process, and planners' inability to manage extant value conflicts.

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van hierdie bewyse het die Groenboek 'n keuselys ontwikkel met beplanningsverwante aanpassingsaksies en bied ondersteuning in die keuse van toepaslike aksies uit hierdie lys om geïntegreer te word in plaaslike ontwikkelingstrategieë en -planne.

Brand en Drewes wys daarop dat die plaaslike korridornetwerke, as 'n potensiële ruimtelike teikeninstrument, miskien nie die enigste oplossing is om die plaaslike uitdagings van ongelykheid, werkloosheid en armoede wat Suid-Afrika in die gesig staar te transformeer nie; maar dit vestig die aandag weer op die potensiaal van streeksentrums as ontwikkelingsknope. Deur dan die 'ekonomiese potensiaal' en 'gravitasie-analise' as meetresultate van die streekkorridornetwerkmodel in ag te neem, het hulle gevind dat hulle kan aantoon watter sentrums opduik as voorkeurplekke om ontwikkelingsgeleenthede te skep om ekonomiese groei te verbeter. Ongelukkig was die data wat gebruik is, verteenwoordig van 'n Suid-Afrika voordat die wêreldwye ekonomiese herstel in 2020 ondervind is.[3]

Sinxadi, Awuzie en Campbell voer aan dat 'n fiksasie op gevestigde studies oor primêre stede van die uitwissing van openbare ruimtes opgemerk is, terwyl opkomende sekondêre stede beperk is. Hulle is ook van mening dat die inskakeling van stedelike openbare ruimtes in die opkomende stede met behulp van 'n Mangaung Metropolitan, lae vlakke van volhoubaarheidsgeletterdheid, lae vlakke van burgerdeelname aan die beplanningsproses, en die onvermoë van beplanners om bestaande waardekonflikte te bestuur, insluit.

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3 Opsomming deur Prof. Das Steÿn (voormalige Redakteur).

ea palo ea baahi, le likoluoa tsa phetoho ea maemo a leholimo, hape le tšusumetso ea mehlala e fanoeng. Ho ipapisitsoe le bopaki bona, Buka e Tala e hlahisa lethathamo la liketso tse amanang le moralo, 'me e fana ka ts'ehetso ho khethoeng ha liketso tse nepahetseng ho tsoa lenaneng lena hore li kenngoe maanong le mererong ea nts'etsopele ea lehae.

Brand le Drewes ba supa hore marangrang a mabatooa, joalo ka sesebelisoa sa ho shebisisa libaka, a kanna ea eaba hase ona fela a ka rarollang le ho fetola liphephetso tsa lehae tsa tekatekano tse tobaneng le Afrika Boroa, joaloka tlhokeho ea mesebetsi le bofuma; Leha ho le joalo, e khutlisetsa tlhokomelo ho bokhoni ba litsi tsa tikoloho joalo ka libaka tsa nts'etsopele. Ka ho nahana ka 'bokhoni ba moruo' le 'tlhahlobo ea matla a ho hohela' joalo ka liphetho tsa litekanyo tsa mofuta oa marang-rang, ba fumane hore ba ka bonts'a litsi tse hlahang e le libaka tse ratoang bakeng sa ho theha menyetla ea nts'etsopele ho matlafatsa kholo ea moruo. Ka bomalimabe, tlhaiso-leseling e sebelisitsoeng e ne e le ea Afrika Boroa pele moruo oa lefatše o fetoha ka 2020.[3]

Sinxadi, Awuzie le Campbell ba lemosa hore lithuto le lipatlisiso mabapi le ho fela hoa libaka tsa sechaba tsa boikhathollo litoropong li lekola haholo litoropo tse kholo, ha thahasello e fokolang e fuoe litoropo tse nyenyana. Ba tsoela pele ho hlakisa hore maemo a tlase a ho bala le ho ngola, maemo a tlase a ho nka karolo ha baahi mererong oa ho rala, le ho hloleha hoa barali ba litoropo rarollalikhohlano tsa bolengsechabeng ho tlisa ts'ebeliso e mpe ea libaka tsena tsa sechaba litoropong tse sa holang joaloka motse-moholo oa Mangaung.

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