rijksuniversiteit groningen / faculty of spatial sciences

Megacity Transition;
Evaluating Sustainable Development in Dar es Salaam

___

Motatiro Dominatha Kibhisa
[S4052382]

Bachelors Project
GEBPROJSPD 2022-23

Supervisor; Prof. dr. Johan Woltjer

Word count ≈ 6563

Abstract

This report looks at megacity transition in the case of Dar es Salaam, Tanzania. The aim is to look at how cities (specifically those in the Global South) develop a sustainable transition strategy in their urban environments. Sustainability is the front runner of this research as Dar es Salaam has to accommodate the urban growth from a population of 5.5 million to 13 million in the span of 20 years. With the rapid growth that Dar es Salaam is expected to experience in the upcoming years, the Dar es Salaam City Master Plan (DSMCMP) is the main strategy document guiding the decisions for land use and development. This leads to the main research question: To what *extent do proposed measures in the DSMCMP facillitate sustainable urban growth for future megacity Dar es Salaam?*

To evaluate how sustainable the proposed strategies are, the research references the 11th SDG (Make cities and human settlements inclusive, safe, resilient and sustainable) and the thematic elements of the triple bottom line (People, Planet. Profit). This is analysed through the lens of the UN-HABITAT 2016 World Cities Report identifying the strategies to tackle following issues; climate change, equality, informal settlements, insecurity, migration, and service provision. These themes are used to code the document and analyse how the DSMCMP developed in comparison to the global urban trends identified by UN-HABITAT.

The results conclude that even though the master plan does identify measures tackling all 6 issues, there is a difference in what is expected theoretically versus what is applied in reality. Local context should be added to sustainability aims for more relevant solutions. The DSMCMP gives priority to some issues more than others and explores integrated strategies as a means of sustainable development.

Table of Contents

01. Introduction

A globally examined phenomenon is the growth of urban areas due to population increase. This is especially prevalent in Africa where the population growth has resulted in more competition for food and natural resources especially within urban areas (Shrijwal et al, 2022). As urbanisation increases, the growing populations' resource consumption coupled with the increased production of waste result in a complex problem (Klopp and Petretta, 2017). Therefore, planning interventions of the future need to take into account sustainable growth of cities in a way that does not exceed the land and resources capacity of the present and future while also accounting for a method of managing urban sprawl which occurs in megacities (Brundtland, 1987; UN-HABITAT, 2020).

The annual growth of cities in Africa, is at an increase of 4.5% - 5.0%, a rate which exceeds the developing regions of Asia and Latin America (Okpala, 2009). The primary reason is rural-to-urban migration which is evidenced in 2007 where in 23 out of 45 sub-Saharan countries experienced social/political upheaval, or natural disasters; this has a negative impact on "social peace and on carrying out development activities in those countries" (Okpala 2009, pg 5). To understand this development, this report looks at the planning strategy of Dar es Salaam, a city that is predicted to become a megacity as soon as 2030 where population growth is expected to have big impacts on its urban form (UN-HABITAT, 2022; Don, 2009). Through analysing the DSMCMP, insight can be gained as to what extent development in African cities can be sustainable when faced with megacity transitions.

1.2 Case Study; Dar es Salaam
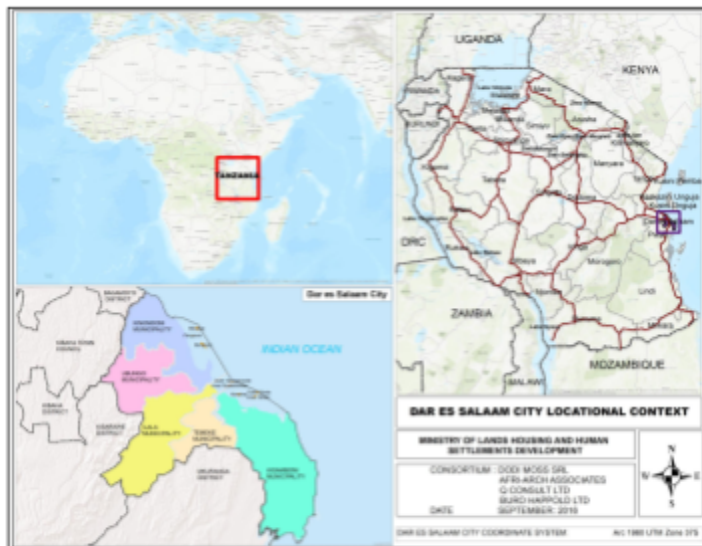
Figure 1. Location of Dar es Salaam (MLHHSD, 2018)

With nearly 6 million inhabitants, Dar es Salaam (Tanzania) is one of the many African cities that is projected to have an estimated rise in urban population up to 62% (Loewenson & Masotya, 2018). Located in East Africa along the Indian Ocean (see figure 1.), Dar es Salaam is a city that has historically been the commercial hub for the country. Initially a fishing town, in 1866 it was named by Sultan Majid bin Sayyid of Zanzibar as a hub of trade and commerce (Todd et al, 2019). After his passing, the economic potential of the city gained the attention of Germany where from the late 1880's it served as the admin and commercial

capital of German East Africa. This dates to 1891 where the first land zoning happened to organise the business district by the port and segregated residential areas for Europeans, African, and Aisans (Peter and Yang, 2017). After the British arrived, they legalised the racial segregation with their own spatial plan in 1949 and continued to grow the economy to what is now the Central Business District (CBD) stretching this accessibility throughout the country with 4 main roads leading out of the city (Peter and Yang, 207; Todd et al. , 2019).

The present day DSMCMP for the city was authored by the Ministry of Lands, Housing, and Human Settlements Development (MLHHSD) in collaboration with the Dar es Salaam City Council (DCC) to guide land use for a sustainable city vision. This report will reflect on what did not hold up in previous land plans and proposes new strategies for 2016 until 2036. The aim of the research is to come up with actionable recommendations for megacity transitions.

The main research question is; <u>To what extent do proposed measures in the DSMCMP facilitate sustainable urban growth for future megacity Dar es Salaam?</u>

1.1 Research Problem

This research strives to examine how cities (like Dar es Salaam) plan to tackle emerging spatial issues attributed to a growing population. The societal goal is understanding the proposed management of urban society. Through interpretation of the regulation and the development projects outlined in the DSMCMP, the city is able to accurately track its growth and synchronise visions for the stakeholders and future policy makers in the city. Heurkens et al, outlines that there is a knowledge gap of strategies versus implemented action plans (2015). They stress the importance of planning being an "interactive endeavour foremost shaped by constant public-private interactions embedded in urban development processes" which is a dynamic that will be explored in the DSMCMP (Heurkens et al. 2015, pg 647).
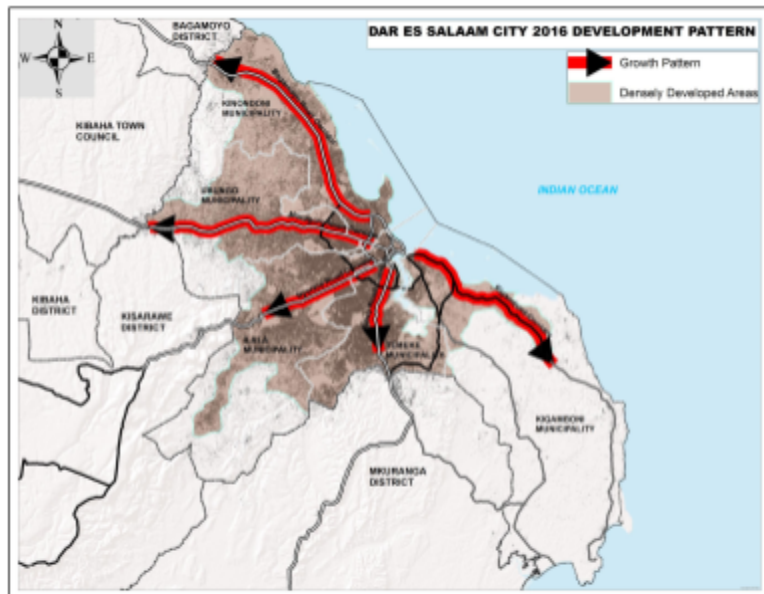
Figure 2; Urban development pattern of Dar es Salaam (MLHHSD, 2018)

The DSMCMP is unique as the first drafted within the country which allows the plan to be more localised (Peter and Yang, 2019). The plan looks at a time frame of 20 years (2016-2036) and takes into account the expected population growth for the city. The motivation is to understand management of urban sprawl in the context of Dar es Salaam. There is a clear

pattern of growth along the 4 radial roads (Pugu, Kilwa, Nyerere, and Bagamoyo) exiting the CBD but due to the lack of spatial plans from 1970, there has been little coordination between the city councils on how to manage the sprawl as seen in figure 2 (Peter and Yang, 2019). As the city grew, the more indistinct the finger-like form became as informal settlements developed between the roads as the population grew (MLHHSD, 2018). Additionally, during this time, Dar es Salaam came to rely on foreign donors for public-private partnerships that would aid in large urban development projects throughout the city (MLHHSD, 2018). This was a response to increasing infrastructure and transportation demand as people settled on presumably 'free; land due to the limited housing options.

1.3 Theoretical Framework

Figure 3. Triple Bottom Line (Elkington, 1994)

The theme behind this research "*Evaluating Strategies for Sustainable Cities*" links to the Triple Bottom Line (TBL) as sustainability concept (figure 3). This model, originally made by John Elkington in 1994, was designed to look at the pillars of People, Planet and Profit (also known as society, environment, and economy) to identify sustainability (HEC Paris, 2022). Through the categorization of issues facing Dar es Salaam, the DSMCMP should aspire to integrate these pillars into their final vision. The People aspect is pressing for the predicted megacity and thus the plan should take into account how the growth affects the urban form (UN-HABITAT, 2022; Todd et al, 2019). Furthermore, this is intertwined with the planet and profit aspect in relation to land use. Specifically, how the increased population has "led to increased competition for food and natural resources' ' (Shrijwal et al, 2022). Prior to the DSMCMP, sustainability in mainland Tanzania has been characterised by the Millenium Development Goals (MDGs) ambitions streamlined into the 2005 National Strategy for Growth and Reduction of Poverty (Swahili as MKUKUTA) for economic growth and poverty reduction through sector development (URT, 2012). This sectoral approach follows the 1997 National Environmental Policy which defined "development is sustainable if it takes place within nature's tolerance limits" for short and long term perspectives (URT 2012, pg 5). Both policies cut across different sectors (see appendix 3) address issues in sustainability in line with other development initiatives.

Additional concepts underpinning the research will be 11th SDG; Make cities and human settlements inclusive, safe, resilient and sustainable and the TBL (United Nations, 2021). An article evaluating this SDG by Klopp and Petretta (2017) explains the dilemma of localization when it comes to creating such policy documents; furthermore they link this to the USDG being an improvement on the MDG's as "indicator systems have proliferated, because they serve multiple purposes" (pg 95). An analysis of the past master plans revealed they failed due to the rapid urbanisation outgrowing the masterplans predictive capabilities (Peter and Yang, 2019). They also stress the importance of including all stakeholders so that a shared vision is created.

These challenges require an interdisciplinary response which allows SDG 11 to support their future solutions. The evaluation of the DSMCMP will look at how the challenges identified are addressed and what can be learned from Dar es Salaam.

However, there is a disconnect between spatial planning and spatial development in African urbanism. Some researchers (eg. Cobbinah & Poku-Boansi, 2018; Mabogunje, 1990; Okpala, 2009) have noted that since most of the indicators are "dictated by international organisations (e.g. UN, UN-Habitat), colonialism and multilateral organisations (e.g. World Bank), with little or no evidence of local aspirations, knowledge and strategies" these frameworks will not address what is going on at the local level (Addaney and Cobbinah 2021, pg. 33). On the other hand, other authors state that due to the time that this style of spatial planning has been introduced to the continent governments should go beyond the 'foreginism' and adapt their cities in a sustainable manner (Coquery-Vidrovitch, 2005). Both are valid points as spatial planning has gradualy become a fixture in urban development across Africa. When looking at the DSMCMP, there will be more focus on what the DCC has highlighted as the main spatial solutions especially in regards to the TBL developments underpinning urban growth. The research will reference the TBL as a measure of sustainability where challenges identified will fit one or more pillars. The relationships between these concepts is illustrated in the conceptual model (figure 4) on the left;
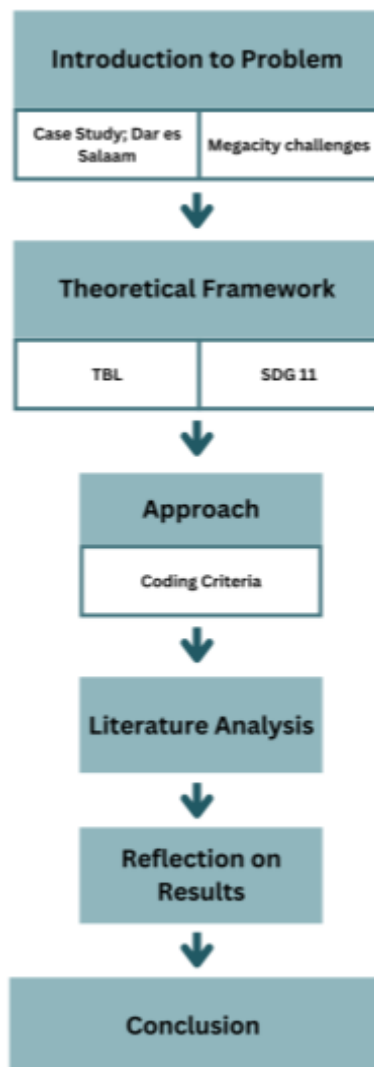
This model is used to look at the relationships between different theories in order to structure the paper. The objective is to use the conceptual method to understand how sustainable the strategy for the city really is and make recommendations for areas in which they are lacking. As the DSMCMP only goes until 2036, there will likely be some strategies that suit this shorter timeline. This model goes through the concepts needed to answer the research question.

Figure 4. Conceptual Model

02. Approach

The main method will be the content analysis of the DSMCMP 2016-2036 (MLHHSD, 2018). The analysis will contextualise the DSMCMP by looking at planning trends at the time (the issues of urban growth identified by the 2016 World Cities Report (WCR) to evaluate the success of its plans for the projected population growth. This city strategy will be evaluated through the lens of the aforementioned theoretical framework.

The content analysis will be done with the programme Atlas Ti. The codes that will be used to analyse the data will fall under 6 categories of issues; climate change, in/equality, informal settlements, insecurity, migration, and service provision. Throughout the analysis, terms that link to the main issues of urban growth in Dar es Salaam will be highlighted and grouped under one of the pre-literature (deductive) codes in one of the 6 categories. To have more localised strategies, (inductive) codes will also be created while going through the literature so the measures of sustainability will be more locally relevant.

The main case for this research will be the DSMCMP with the variables being the proposed measures. As stated in section *1.1 Research Problem*, the main research question is; <u>To what extent do proposed measures in the DSMCMP facillitate sustainable urban growth for future megacity Dar es Salaam?</u>

The subsequent sub questions are as follows;
- Are the issues identified by the 2016 WCR relevant to the local situation in the DSMCMP?
- To what degree are the aspects of the triple bottom line integrated into the DSMCMP?
- Which indicators does the DSMCMP value for sustainable city success?
- What lessons can be learned from the DSMCMP for similar megacity transitions in Africa?

The posed sub questions will allow for a better understanding of the master plan. The masterplan serves as a tool that has been used by planning authorities in Dar es Salaam since 1891. This current rendition has been commissioned by the MLHHSD working with the 5 municipalities over the course of a year to undertake the masterplan design. Further literature review will also be conducted for the institutional context of the plan.

2.1 Coding

Through the coding of the DSMCMP, the first two sub questions will be addressed. The final two sub questions will reflect on the results of the coding in order to better understand the local definition of a successful sustainable city. The methods illustrated should then be able to build to a conclusion and policy recommendations.

In order to accurately analyse the DSMCMP, the following deductive codes have been created to create structure for the coding;

Table 1; In-Vitro Coding Terms for Content Analysis

Category of Issue	Impacts	Possible strategies
Climate Change (Planet)	Educational limits Negative environmental impacts Pollution Vulnerable communities	Climate mitigation Climate adaptation Climate resilience Environmental conservation
Equality (Planet, People, & Profit)	Demographic dividend Educational limits Emancipation of women Lack of social capital Low income	Improved health accessibility Improved safety Improved service infrastructure
Informal settlements (People)	Housing problem Pollution Poverty Rapid population growth Unemployment Vulnerable communities	Improved housing Improved service infrastructure
Insecurity (People & Profit)	Crime Cyber security Militarization Poverty Terrorism	Improved housing Improved safety
Migration (People)	Demographic dividend Migration Unemployment	Increased job opportunities
Service provision (Planet, People, & Profit)	Educational limits Electrical network limits Health Issues Limited sanitation Mobility infrastructure Water issues	Improved health accessibility Improved mobility Improved service infrastructure Public-private projects

The categories have been adapted from the WCR 2016 list of urban growth issues as both documents published around the same time focus on population growth and its effects on the urban form. The inspiration behind the categories is to serve as a guideline for what global challenges the DCC regarded when authoring the DSMCMP in 2016. The 'impact' codes identified expand on these issues whilst the 'strategy' codes can identify planning measures. As most of the deductive codes are based on previous literature regarding Dar es Salaam, it is to be expected that new ideas and concepts will have been developed to better explain the current situation. Therefore, the column for 'possible strategies' has been mostly left blank for more localised solutions.

Furthermore, codes relating to the impacts and strategies have been listed to guide the content analysis based on background research and more specifically the indicators for SDG 11. These codes are to be utilised in the initial readthrough of the document. Any repetition in coding will be discussed in relation to the category of city issue. However, this is not an exhaustive list as more location specific terms will come up in the DSMCMP. With each of the categories of identified issues, Atlas Ti will help gather data on the effect and corresponding intervention through hierarchical inductive coding.

Table 2: Grading of Codes

Level of Description	Grade
Code has not been identified	0
Code has been mentioned without context	.25
'Impact' code has been described with context to the plan	.5
'Impact' code has been identified and linked to a strategy' code in the context of the master plan	.75
'Impact' code has been identified and linked to a 'strategy' code in the context of the master plan with clear steps for implementation	1

To quantify the data, the codes will be graded according to the criteria in Table 2. The results will divide the codes into their respective categories and discuss the implications of the results in the next chapter. This is done in order to have a thorough understanding of the DSMCMP.

2.2 Ethics

To have relevant results, all the data that will be used will need to be credible. The primary document is a government report (DSMCMP) that is publicly accessible. As it is available to the public, the main ethical consideration is to ensure that the coding and grading of the strategies is conducted in a respectful manner aimed at improving the knowledge available for megacity transitions The results will strictly refer to coding criteria informed by scientific articles to ensure credibility and make recommendations based on this database. Furthermore, the theoretical framework and concepts elaborated upon will all be based on academic publications. As this report will be submitted to the University of Groningen, this report will follow their code of ethics.

03. Research Results

This chapter aims to explore the contents of the DSMCMP. To contextualise the research it is best to understand the role of master plans in relation to Dar es Salaam's urban planning.

As mentioned in the introduction, land zoning was utilised in Dar es Salaam during the German colonial rule in 1891, but was not formally recognized as a planning tool until the British drafted the 1949 masterplan (Peter and Yang, 2019; MLHHSD et al., 2018). This version had strict zoning laws and drew inspiration from Howard's Garden City for the 20,000 estimated population. The 1968 masterplan was inspired by the era of scientific rationale approach for the population of 250,000 people; it encouraged sprawl and post-colonial Dar became an economic hub due to "elimination of colonial restrictions on internal migration." (Peter and Yang 2019, pg 363). Table 3 showcases how events around Tanzania's independence and national policies affected the direction of planning practice. The following 1979 plan proposed flexible staged development to keep up with the city's growth up until 1999.

Table 3 - Timeline of Planning and Influential Events*
- *Rows highlighted in teal indicate the year that a Dar es Salaam master plan was published*

Year	Plan Overview	Actors Involved
1891	Primarily land zoning scheme	German East Africa (colony)
1949	Master plan 1 - Established CBD and regulated racial residential segregation	British Tanganyika (colony)
1961	Tanganyika (presently Tanzania) gained independence on December 9th	
1968	Master plan 2 - Expansion of city and restructure of radial road network to decrease informal housing sites	Project Planning Associates (Toronto, Canada consults)
1967	Arusha Declaration (*Ujamaa*) - promoted socialism and self-sufficiency which focused funding to rural development to the detriment or urban development	
1972	Nationalisation of Private Properties - the government discouraged private/commercial investment in housing or factories resulting in mainly state-owned properties. This overhaul left them unable to provide for the influx of graduates and new migrants resulting in a boom of the informal economy	
1972	Decentralisation policy - The abolishment of local governments and moved urban planning and management responsibilities to regional authorities. Dar sufferend infrastructure and service provision wise from 1972-1982 when there was no local govt. When they returned they did not get back all their revenue streams	
1979	Master plan 3 - Flexible staged development coinciding with population	Marshal Macklin Monaghan (Ontario, Canada consults)

	growth (1.2mil, 1.5mil, 2.4mil inhabitants)	
1992	Strategic Urban Development Plan (SUDP) - piloted in Dar es Salaam as a response of the United Nations Center for Human Settlements to the request of the Tanzanian government to finance the review of Dar es Salaam's 1979 master plan	Coordinated by the World Bank ,UN-HABITAT, Tanzanian Government
1996	Liberalisation of economy - Private sector re-introduced to the economy	
2016	Dar es Salaam City Master Plan 2016-2036	Ministry of Land Housing and Human Settlements Development, Dar es Salaam City Council, Kinondoni City Council, Illala City Council, Temeke City Council, Kigamboni City Council and Ubungo City Council

However, between 1968 and 1979, several events happened that exacerbated the growth of the city. The planning era of *Ujamaa* sought to control migration and keep more people in centrally planned villages, leaving big cities planning underdeveloped (Kombe, 2005). The project was semi-successful but ultimately Dar kept growing rapidly enough that the National Housing Corporation saw the need to address the squatter issue and the uprising informal housing issue; as the 1979 plan was developed mainly by outside consultants these issues were not addressed (Todd et al, 2019). There was a disconnect between what was happening on the ground and what international partners saw as the ideal urban growth models. The penultimate planning attempt before the DSMCMP was in 1992; the SUDP introduced some environmental planning management (EPM) approaches but ultimately failed as it had inadequate support from the local government. The DCC did not have the capacity to implement and closely legislate the plan due to failure to implement the EPM approach with the DCC and its municipal frameworks (MLHHSD et al., 2018). Therefore from 1999 to 2016, Dar es Salaam has been growing without a city vision.

3.1 Institutional Framework

The 2016 Master Plan has been mainly authored by the DCC to guide spatial developments and stimulate activity through local authorities and stakeholders. The DSMCMP refers to policies and reports throughout as recommendations for development projects and land use planning. As reported in the DSMCMP, the main institutional frameworks that guided the process are the 2000 National Human Settlements Development Policy (NHSDP) in conjunction with the 2007 Urban Planning Act (UPA)(MLHHSD et al., 2018) . The NHSDP recommends regularisation, upgrading, and gradual formalisation of unplanned settlements recognizing that it would result in less infrastructure strain whilst allowing better service provision for their inhabitants (MLHHSD, 2000). The UPA built up on this by emphasising on the need for efficient use of land resources, planned growth, and encouraging citizen participation in the planning process (Urban Planning Act, 2007). As of currently, the masterplan is coordinated by the DCC across the 5 municipalities

(MLHHSD et al., 2018). The DCC mainly coordinates projects that cut through the municipalities but does not have any admin authority over the 5 municipalities. The municipalities serve as a tie between the local community and higher levels of government. They are responsible for basic social and economical services; with the help of the *mtaa* and ward councils who have the forum for community participation but have no planning power/authority.

Additionally, there are governmental agencies that operate outside of these local government areas (LGA's) namely the Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam Water and Sanitation Authority (DAWASA), Tanzania Roads Agency (TANROADS), and the Surface and Marine Transport Regulatory Authority (SUMATRA). They have independent master plans that can sometimes conflict with each other. This coordination issue is also seen with the Tanzania Building Agency (TBA), and the Tanzania Ports Authority (TPA) who have independent building jurisdiction on building permits over specified areas of the city (MLHHSD et al., 2018).

3.2 Analysis of Research Categories

The DSMCMP document has 15 chapters (see appendix 3 for details) in which the issue of different sectors are explored (chapters 4 through 11) and the final master plan strategy is detailed (chapters 12-15). The deductive coding scheme (seen in blue and green) introduced in section 2.1 *Data Collection Instrument* served to code the 'impact' and 'strategy' codes across the 6 main issues in order to understand how the master plan formulated a solution for the future megacity. Whilst coding inductively several codes (seen in purple and yellow) were created (see Appendix 1 for all codes utilised) that reflected the local situation and the strategies that correspond. This was then formulated into the grade based on the criteria in table 2.

3.2.1 Climate Change

According to the 2016 WCR, the issues and solutions that arise in climate change are pertinent issue to urban areas due to the agglomeration of people (UN - HABITAT et al., 2016) With regard to megacity transition, the issues such as extreme weather events that arise under this category can "disrupt the basic fabric and functioning of cities with widespread implications for the economy, infrastructure and inhabitants" (UN - HABITAT et al. 2016, pg 16). This was indeed identified in the DSMCMP as 10 impact codes, and 5 strategy codes were utilised and grades as such in table 4;

Table 4 - Grading of Climate Change Coding

Impact	Strategy	Notes	Score
Competing land use	Regulation of land use	Proposal of DMA as means of overseeing land use planning in the city	.75
Educational limits	Climate resilience, and environmental conservation	NEMC identified as authority responsible for raising awareness of	1

	Regulation of land use	environmental issues	
Extreme weather events		Lots of detail outlining issue but no direct solution identified	.5
Land degradation	Climate adaptation	Mention of coastal management measure, but no further detail on what that entails	.5
Low stakeholder coordination	Climate adaptation	Details the impacts of climate change and solutions needed	.75
	Regulation of land use		
Negative environmental impacts		Mentions of physical impacts of climate change	.25
Pollution	Regulation of land use	Water and air pollution are both identified and corresponding measures are mentioned	.5
Vulnerable communities	Regulation of land use	Issue and solution identified	.5
	Climate mitigation	Term was not used throughout the document	0

As seen in table 4, there were several impact codes utilised that related not only to the physical but the societal impacts of climate change. An example is the National Environment Management Council (NEMC) being a leading example for coordinating activities between the people and the government as it "undertakes environmental information generation, assembly, and exchange" (MLHHSD et al. 2018, pg 28). This allows the general issue of climate change to be tackled from different perspectives and makes the solutions to climate change more sustainable by making the management more robust. The primary solution for this category is regulation of land use which will be undertaken by the proposed Dar es Salaam Metropolitan Authority which aims to ensure that "land uses in the City   and metropolitan area follow designated plans; and deal with all trans-boundary issues" including the utility companies which currently lack this hand-on coordination (MLHHSD et al. 2018, pg 201). The document also suggests that there will be a Dar es Salaam Urban Transport Authority (DUTA) but no details for the formation of this authority are in the final strategy.

3.2.2 Equality

The issue of equality comprises issues of inequality and social exclusion. As reported by 2016 WCR, this is a relevant issue especially to African cities which show the highest levels of inequality globally (UN - HABITAT et al., 2016). The codes in this category look at how the growing urban divide has gradually excluded a large portion of the citizens from opportunities that would help them advance in society. The grades for these codes are as follows in table 5;

Table 5 - Grading of Equality Coding

Impact	Strategy	Notes	Score
Community managed resource		Mainly acknowledged as an issue that informal settlement residents have to deal with due to limited service provision	.25
Demographic dividend	Improved health accessibility, and improved service infrastructure	Notes importance of young generation and the need to provide adequate services	.75
	Improved education facilities		
Educational limits	Improved education facilities, and regulation of land use	Linked to NEMC for increasing nature conservation awareness	.75
Emancipation of women	Improved safety	Impact and corresponding strategy mention measure	.5
Informal working sector	More shared public space, and regulation of land use	Highlights strategies that can be implemented to solve the issue including satellite city centres	1
Lack of social capital	Improved safety and improved service infrastructure	Impact and strategy are well detailed with clear implementation steps	1
	Improved educational facilities, , promote dense development, and regulation of land use		
Low income		Issue is detailed but not directly linked to strategy	.5
Low stakeholder coordination	Improved service infrastructure	Notes impact of issue, supported by relevant strategies	1
	Improved education facilities, and regulation of land use		
	Increased recreational activities	Strategy is not linked to issue but posed independently	.25

As equality includes a variety of interests, the impacts noted for this issue vary in scope. The economy and society are mainly addressed through codes such as 'emancipation of women' which are then supported by strategies aimed as 'improved safety'. This is shown in the DSMCMP where importance is placed on "safety for females and young adults to travel to their place of business and whilst working through the provision of affordable and accessible regulated public transport", a measure that limits social exclusion and improves social capital (MLHHSD et al. 2018, pg 28).

However the issue of service provision in informal settlements still remains; as no direct strategy has been mentioned, instead stand-alone projects are undertaken by private stakeholders in a manner that is not sustainable. This is the opposite for the 'increased recreational activities' strategy which entails several general measures but is not strongly linked to one. Both of these impacts of inequality focus on the citizens' physical needs.

3.2.3 Informal Settlements

As early as the 1968 Dar es Salaam Master Plan, informal settlements have been a persistent issue. Often linked with rural to urban immigration, the formation and upkeep of these settlements are a key part of urban policies (MLHHSD et al. 2018; UN - HABITAT et al. 2016). Although around 75% of housing is situated in unplanned areas most resources go towards planned locations; informal settlements are only approached via project based initiatives which is unsustainable and a field which largely needs attention. Therefore, the following codes and relevant strategies have been graded as seen in table 6;

Table 6 - Grading of Informal Settlements Coding

Impact	Strategy	Notes	Score
Community managed resource		A lot of information as to how low service provision has led to this sector but no mention of strategies linked to regulating these resources	.50
Competing land use	Regulation of land use	Details formation of DMA to coordinate land use planning with housing corporations	.75
Housing Problem	Improved housing quality, improved service infrastructure	Details need for land use coordination and outlines measures to be implemented	.75
	regulation of land use		
Informal working sector	Regulation of land use	Notes importance of aspect and outlines proposed measures	.75
Pollution	Regulation of land use	Mentions issue	.25
Poverty	Regulation of land use	Mentions issue and mentions solution	.5
Rapid population growth	Improved service infrastructure	Proposes details about issue and consequent strategies to solve issue spatially and economically	1
	Regulation of land use		
Sprawling urban form	Improved service infrastructure	Clearly outlines strategy but does ot indicate how or when policies will be carried out	.75
	Regulation of land use		
Unemployment		Code utilised to illustrate issue but not clearly linked to a strategy	.25
Urban Agriculture	Regulation of land use	Mentions measure for land zoning	.5
Vulnerable communities	Improved service infrastructure	Impact is mentioned with regard to proposed strategy	.5
	Regulation of land use		

The problem of informal settlements has been one that has prevailed for the last 70 years

therefore, the DSMCMP is familiar with the need for strategies for these areas. The proposed three pronged policy approach aims to raise the quality, zone for urban development activities, and policies for replacement of old unserviceable buildings. The main strategies prescribe solutions to increase quality of life through regulation policies and development plans. Some of these span to the economic aspect of informal housing including promoting PPP partnerships to develop housing or zoning for "allocation of spaces for roadside sellers and market places that are accessible" promoting new forms of financial accessibility for the public (MLHHSD et al. 2018, pg 177).

3.2.4 Insecurity

There are studies that show that 60-70% urban residents have experienced crime, a trend that is prevalent in rapidly growing developing countries (UN-Habitat, 2007, cited by UN - HABITAT et al., 2016). The deductive codes produced relate mainly to these statistics, however, the inductive codes produced relate more to reducing general risk around these crimes. The coding scheme has resulted in the following grades for this category (table 7);

Table 7 - Grading of Insecurity Coding

Impact	Strategy	Notes	Score
Crime		Code not used	0
Cyber security		Code not used	0
Informal working sector	More shared public space, and regulation of land use	Strategies described for increasing pedestrian activity for more productive land use	.75
Militarization		Code not used	0
Poverty		Impact mentioned as part of strategy but no link to clear follow through	.5
Terrorism		Code not used	0
	Improved educational facilities	Strategy codes linked to unconnected solutions but no clear link back to impact codes	.25
	Improved housing quality	Codes propose suitable measures to reduce risk	.5
	Improved safety	Mentions solutions but does not link back to impacts	.25

Most of the deductive codes were not utilised suggesting a gap between the theoretical and practical strategy applications. Furthermore only the 'informal working sector' has been clearly linked to a strategy that promotes mixed use development and land use at the human scale (MLHHSD et al. 2018). The remaining strategies under this category are generally aimed at reducing the risk of insecurity by focusing on the environment of the citizens. The strategies that have not been directly linked to an 'impact' need more information so that these measures can clearly dictate the direction of policy.

3.2.5 Migration

The rise of migration has stemmed from different factors but the driving one for Dar es Salaam are economic migrants (MLHHSD et al., 2018). Coupled with the population growth, there is competition especially amongst the youth for employment. The main consequence of this competition is falling into poverty as the limited integration policies can lead to "the formation of ghettos and marginalised communities" (UN - HABITAT et al. 2016, pg 22). The strategies posed in the DSMCMP are graded below (table 8);

Table 8 - Grading of Migration Coding

Impact	Strategy	Notes	Score
Demographic dividend	Increased job opportunities	Details impacts of migration and outlines strategy to be used	.75
High traffic congestion		Details impacts but does not clearly link to strategy	.5
Informal working sector	Attract economic activity	Outlines impact and strategy for economic development	.75
	Increased job opportunities		
Migration	Attract economic activity	Mentions strategy but no clear steps for implementation	.75
Sprawling urban form	Increased job opportunities	Mentions strategy that outlines creating of satellite centres	.75
Unemployment	Attract economic activity	Details the impacts but no clear details for strategy	.75

As a result of employment competition, many of the 'impact' codes of migration can lead to the 'impact' codes of informal settlements. The DSMCMP sees the rural-to-city immigrants entering the city as opportunities for economic activity citing the "young demographic" (MLHHSD et al. 2018 ,pg 129). This is further expanded upon in the strategy of creating satellite urban centres in order to decongest the CBD and increase facilities for economic migrants to create their own livelihoods . The stray impact of 'high traffic congestion' further supports the decongestion of the city as it hints at how migration can impact the existing infrastructure of the city. By enacting the proposed strategies the DSMCMP links social, economic, and environmental aspects of migration in a sustainable manner.

3.2.6 Service Provision

The challenge of service provision in growing urban areas intersects all the other issues in this research. The issue is influential to such an extent when these urban services are compromised " basic productivity of all citizens will be compromised" (UN - HABITAT et al. 2016, pg 16). This issue has been noted from the 1979 city master plan along with the problems that come with trying to keep up with the demands of a quickly growing population and come up with creative solutions at the same time. Hence, the majority of impacts and strategies have been categorised under this issue as seen in table 9 below;

Table 9 - Grading of Service Provision Coding

Impact	Strategy	Notes	Score
Educational limits	Improved educational facilities	Impacts are well detailed but linked strategy is only mentioned	.75
Electrical network limits		Impact is explored but solution is tasked to independent utility company	.5
Health issue		Impact is described and linked to other impacts (ie water) but not strategy	.5
High traffic congestion	Improved mobility, and public-private partnerships	Strategy clearly solves impact with detailed implementation for DART authority	1
Limited cultural services	Improved mobility	Describes strategies to solve impacts of issue and preserve the unique characteristics of the city	1
	Increased recreational facilities, maintenance of facilities, more shared public space, and promote dense development		
Limited sanitation	New planning framework	Mentions of impact and linked strategy with inferred reference to DMA	.75
Low stakeholder coordination	Improved educational facilities, and new planning frameworks	Strategies outline solutions but no detail on how it decreases low stakeholder coordination	.75
Minimal data collected		Impact is referenced but no link to new strategies	.25
Mobility infrastructure	Maintenance of facilities	Strategy builds upon existing mobility solutions with maintenance to improve productivity	1
Sprawling urban form	Maintenance of facilities, new planning framework, and promote dense development	Strategy outlines plan of a dense city to help upkeep service infrastructure	.75
Urban agriculture	New planning framework	Links impact to DMA regulations	.75
Water issue	New planning framework	Details of impact link well to proposed DMA	.75
	Attract economic activity	Linked to other strategies to solve general impacts but no tangible steps linked to an impact	.5
	Improved health accessibility	Mentions plans for independent strategy	.25

The range of impacts from infrastructure to health mean that the posed strategies need to be extensive in order to tackle the issue from all fronts. As the challenge intersects many issues, the solutions also are generally aimed at improving regulation with 'new planning framework' and 'maintenance of facilities' being the leading strategies. The DSMCMP elaborates on this

intersection by highlighting how these services are "critical to all types of economic and livelihood activities" (MLHHSD et al. 2018 ,pg 129). Therefore the posed strategies can be classified under all pillars of the TBL. Much like the other category of issues, there are impact codes - namely 'electrical network issue' and 'health [accessibility] issue' that deductive coding are showcased but the DSMCMP does not directly link them to a solution. This could imply that there is a gap between what is expected in theory versus the real life applications.

3.3 Overlaps in Categories

Looking at all the interactions together (see figure 5), a sankey chart does well to showcase the 'impact'-'strategy' pairings across the whole document. The most frequent codes being, 'regulation of land use', 'competing land use', 'rapid population growth', and 'water issue' illustrate the DSMCMP's priorities. Alongside these policies, the DCC notes that the aim of the strategy is to integrate the different aspects into a more cohesive vision to improve the overall quality of the city (2018, p 139). Through the various intersections between 'impact' and 'strategy' codes, the report does well to build actionable measures towards the goal. There are a lot of measures related to the environment (Planet) and improving general quality of life (Economy), but the strategies are broad in some areas leaving out details about issues with security and risk (People).

The common trend across all categories is codes often overlapping with each other. This is with 'strategy'-'strategy'/'impact'-'impact' paired codes. The overlap implies that multiple aspects of an issue must be considered at once. Consequently, there were instances where 'impact' codes did not link to a 'strategy' but instead linked to another 'impact' to illustrate the extent of an issue. Therefore, when the same 'impact'-'strategy' pair was identified in different issues, the grading of the strategy might have slightly differed due to the context of the measures.

Table 10 - Comparing theory (deductive) coding with in-practice (inductive) coding occurrences

	Deductive 'strategy' code pairs	Inductive 'strategy' code pair
Deductive 'impact' code pairs	28 pairs (35 quotations)	30 pairs (45 quotations)
Inductive 'impact' codes pairs	14 pairs (19 quotations)	24 pairs (35 quotations)

Looking further into the 'impact'-'strategy' pairings it is interesting to note how often the deductive codes were paired with other deductive codes and vise-versa. As seen in table 9, there were more pairs that were created inductive than deductive. This suggests that the focus of the DSMCMP was very much based on local factors. Consequently, there are some deductive codes that were not seen in the city strategy including; crime, climate mitigation, militarization, cyber security, and terrorism. The deviation from what was expected from theory suggests a gap in the master plan open to future research.
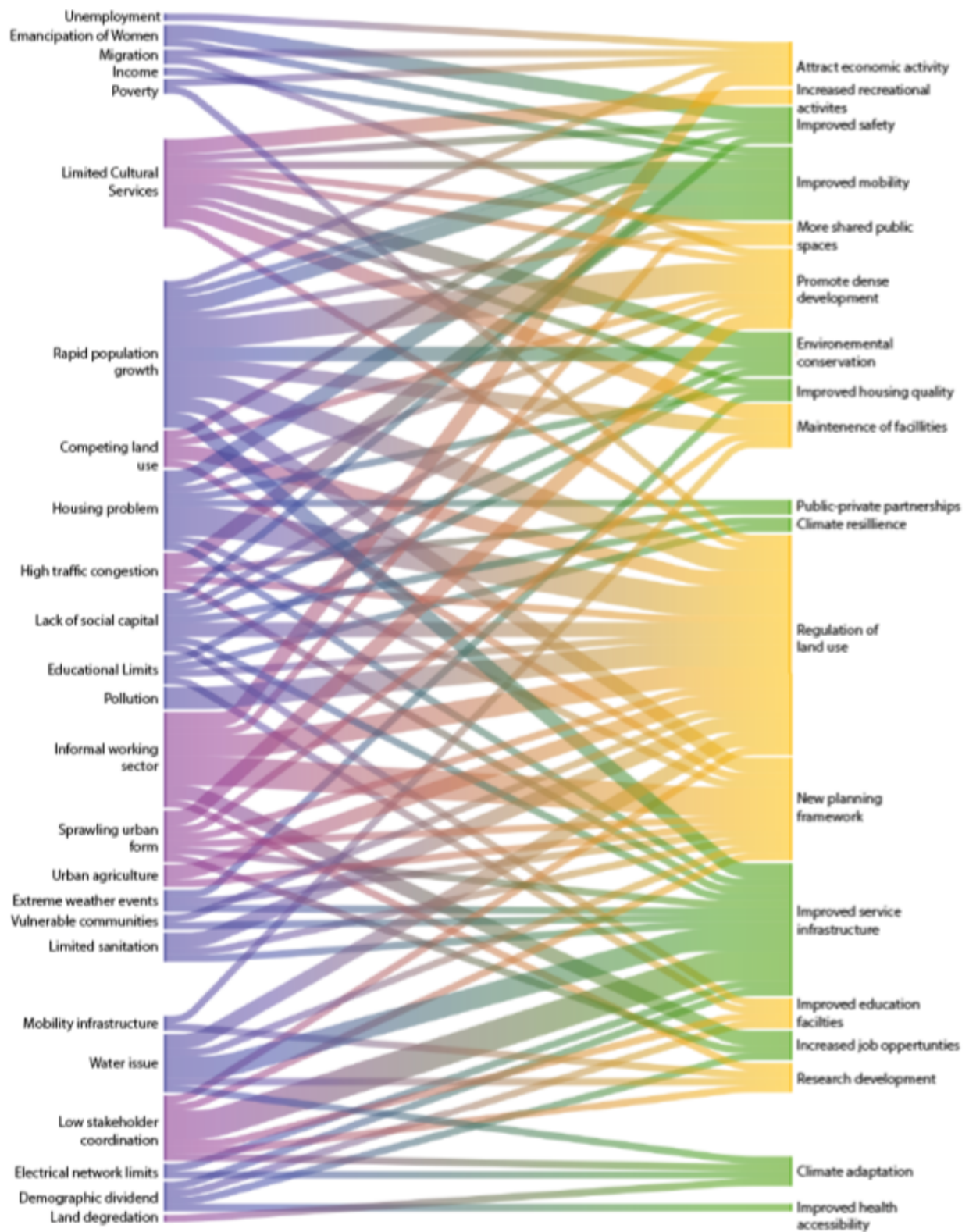
Figure 5 - Sankey Code Co-Occurrence Analysis

04. Theory vs Practice

The overarching strategy of the DSMCMP is based upon accommodating for population growth following the several themes; creation of urban sub-centres, restructuring of road network and improved transport,rehabilitation of the city, and improving the environmental quality. In order to achieve this the following interventions are to be implemented (see figure 5) ;
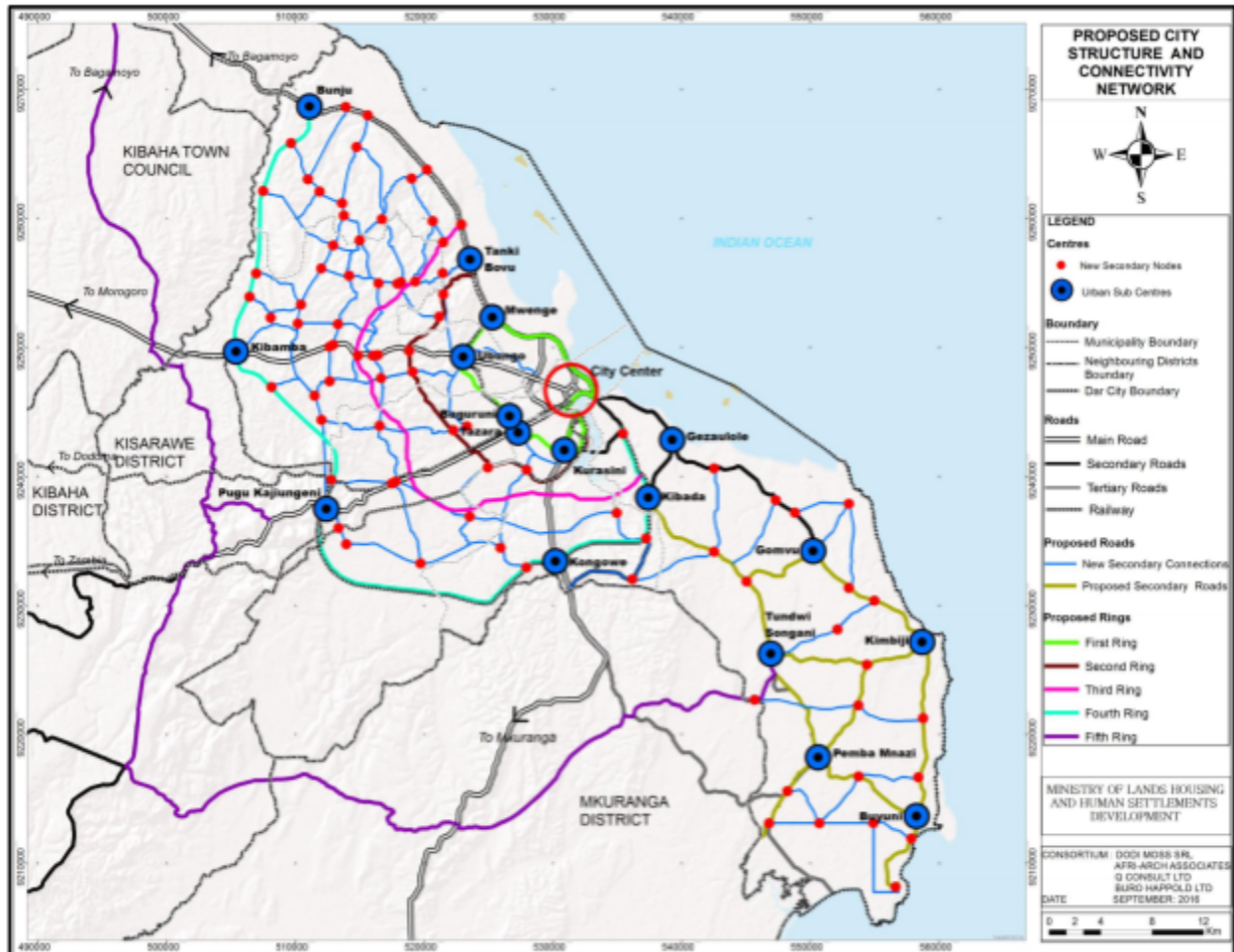
Figure 5 - Proposed City Structure and Connectivity Network (MLHHSD, 2018)

- Renewal / redevelopment strategies for informal settlements
- Reduction of traffic congestion ; concentric road system aimed at increasing accessibility
- General sustainability interventions to reduce environmental contamination and risks due to poor infrastructure
- Environmentally suitable urban development through green systems increase, coastal line protection, reorganised mobility networks, and policy aimed for environmental protection

- Satellite urban centres, city densification/infil, and development of master plan of Kigamboni municipality for new residential development
- Create new settlements in expansion areas with first trial residential community with 24,000 people for city expansion
- New industrial areas along TAZARA and near Bagamoyo to tackle inadequate employment opportunities in formal economy
- New governance structure (Dar es Salaam Metropolitan Authority) to enforce land use planning across authorities working within the city limits

The DSMCMP timeline is;
- Phase 1 2017 - 2021; Creates main ring road, new sub-centres along main existing corridors, and the start of city densification
- Phase 2 2022 - 2026; Develops residential clusters between main 2 ring roads, rehabilitation of existing railway lines, and piloting of first 5 Satellite centres (estimated increase of 3.5 mil people)
- Phase 3 2026 - 2036; Starts after the finalisation of first two to accommodate 4 million more people along expansion along Kilwa road

When coding the document, it was hard to understand this flow of information due to jumps between research and measures. So while it was beneficial to link an 'impact' -'strategy' there is information missing for deeper understanding of cumulative effects of strategies with each other. Therefore, when similar 'impact' codes repeated across categories, grading of the pairing could be different as nuances in the 'impact' fell into different contexts.

The use of the UN-HABITAT categories underspined the formation of the DSMCMP but it was not enough to support the local context. Through the localization of issues, the DSMCMP was able to refer to different aspects of the TBL and provide a framework for future development. Most of the posed strategies were underpinned by perceived Planet or Profit gain. This meant that the measures for the People sometimes did not get as much attention in the DSMCMP.

4.1 Recommendations

The DSMCMP does well to create a vision for the future and is able to identify its own strengths and weaknesses. There is a clear timeline of implementation, infrastructure planning, and the formation of the DMA takes into account the institutional changes that would need to occur to benefit the development of Dar es Salaam. This reflection on planning considerations and opportunities take ideas from earlier chapters to utilise system thinking in tackling the issues that come with the megacity transition. Through these considerations 4 scenarios are shared and then analysed with SWOT diagrams giving the public some insight into the master planning process. The additional transparency from these scenarios allows more informed decisions in the final proposed master plan. Cities in similar contexts across Africa could do the same with their spatial development plans for transparency garnering public support for the plan.

However, the storyline of the plan is lacking in consistency in the earlier chapters. There is evidence that many challenges are being addressed throughout the report but they are lost in the sea of research in every chapter. Many of the policies outlined for sustainability in the earlier chapters are rarely referenced in the discussion of measures. All chapters showcase research (see appendix 2) but some fail to link back to the overarching strategy leading to a fragmented storyline. The plan could benefit from integrating some theoretical elements such as the triple bottom line more explicitly in chapter summaries keeping in line with sustainability. By adding these details, the plan developed can still follow local contexts and serve as an example to other cities in transition how to develop a long-term master plan.

For a megacity transition, the DSMCMP should include check-in points for each develpment phase. 20 years is a long time and outside effects may change the trajectory of plans - this was seen with the COVID-19 pandemic which disrupted many lives. As this pandemic really affected the People pillar, the master plan should have accounted for more social welfare strategies to ensure issues of insecurity and inequality do not rise during that period. Especially in the midst of a transition where the population is expected to more than double in 20 years, there should be more frequency of reports to keep up with city developments and recorded events that change the timeline of the plan. This can also provide an opportunity to introduce more detailed measures that reflect the results of a pilot project and allow more considerations for citizen feedback.

As many of the megacity transitions are happening in the Global South, there is valuable insight in documenting the process as the innovation is unique. Insights gained from the DSMCMP generate more knowledge that can be shared to support cities that are pioneering new planning visions in unique situations. Key takeaways from Dar es Salaam is to create a clear timeline of events, address institutional opportunities, and provide transparency for land use planning. In the future, cities in similar situations can allow room for innovation and collaborate to manage the resources needed to sustain the rapid population growth.

05. Conclusion

In conclusion, the DSMCMP illustrates how many moving parts have to work together to develop a strategy suitable for megacity transition. The purpose of the plan was to create a vision for Dar es Salaam 2016-2036 taking into account the projected population growth and to guide decision making on land use development. Through Atlas Ti, the document was coded in 6 categories of issues based on the 2016 WCR to research if the general trends for urban growth were relevant to Dar es Salaam. The research found that while many of the codes created under these categories were useful, they still needed to be supplemented by inductive codes that reflected the local context. There were many more 'strategy' codes that were found inductively that correspond to deductive 'impact' codes, but also some deductive 'impact' codes that were not utilised.

The codes were used in the plan but individually only served a checklist. In order to make these codes useful, it was necessary to analyse their co-occurrences across the whole document and use the common ties to develop more integrated strategies. This implies that master plans directed at megacity transition need to not only link strategies to each other but apply system thinking to identify underlying causes of different issues. This was done well in DSMCMP where the scope of issues were presented and opportunities for measures were identified by the DCC. Generally, there is a great foundation for sustainable urban growth in Dar es Salaam, but there is room for improvement. The DSMCMP guides the vision for land use in the city but often defers details to other authorities making the coordination between stakeholders difficult. The 6 categories can serve as a starting point to ensure that the vital issues are being tackled but more localised information will enable a master plan strategy to be implemented across different contexts. Additionally, there needs to be clearer links to existing policies to ensure that the TBL aspects are all being addressed equally. Cities (especially in the Global South) undergoing the same transition would do well to take the theories that have been developed for a global context and localise them to warrant more relevant and sustainable development strategies.

This method of research served as a useful tool to identify the strengths and weaknesses of master planning. The first being that it was limited to only looking at one city. There are multiple cities undergoing the megacity transition, and it would have been more representative to look at several of these cases to further test the coding framework in this study. The grading criteria could be altered in future research to accommodate the different types of coding and really look into the quality of the proposed measures. This self reflection can benefit the master plan process as it routinely can check if the sustainability goals are on track. This could expand into new categories such as exploring how the formal and informal sectors can collaborate for continued development. The gap between theory and practice is always one that can benefit from more research. The research into the DSMCMP is just the beginning of what should be considered in the development of a megacity. Cities with similar megacity ambitions can benefit from this approach.

References

Addaney, M. and Cobbinah, P. (2021). *Sustainable Urban Futures in Africa*. Routledge.

Adhikari, S., Koirala, P., Ghosh, A. and Henry, M. (2022). Planning for Sustainable Cities in Africa: Experiences, Challenges and Prospects of Monitoring Geospatial Indicators. *Remote Sensing*, 14(12), p.2821. doi:https://doi.org/10.3390/rs14122821.

École des hautes études commerciales de Paris (HEC) (2022). *What is the 'Triple Bottom Line'?* [online] HEC Paris. Available at: https://www.hec.edu/en/faculty-research/centers/society-organizations-institute/think/so-institute-executive-factsheets/what-triple-bottom-line#:~:text=The%20term%20%E2%80%9Ctriple%20bottom%20line.

Heurkens, E., Adams, D. and Hobma, F. (2015). Planners as market actors: the role of local planning authorities in the UK's urban regeneration practice. *Town Planning Review*, 86(6), pp.625–650. doi:https://doi.org/10.3828/tpr.2015.37.

Klopp, J.M. and Petretta, D.L. (2017). The urban sustainable development goal: Indicators, complexity and the politics of measuring cities. *Cities*, 63, pp.92–97. doi:https://doi.org/10.1016/j.cities.2016.12.019.

Kombe, W.J. (2005). Land use dynamics in peri-urban areas and their implications on the urban growth and form: the case of Dar es Salaam, Tanzania. *Habitat International*, 29(1), pp.113–135. doi:https://doi.org/10.1016/s0197-3975(03)00076-6.

Mabogunje, A.L. (1990). Urban Planning and the Post-Colonial State in Africa: A Research Overview. *African Studies Review*, 33(2), p.121. doi:https://doi.org/10.2307/524471.

Ministry of Land Housing and Human Settlements Development, Dar es Salaam City Council, Kinondoni City Council, Illala City Council, Temeke City Council, Kigamboni City Council and Ubungo City Council (2018). *Dar es Salaam City Masterplan 2016-2036*. [online] *Ministry of Land Housing and Human Settlements Development*, Dar es Salaam: Ministry of Land Housing and Human Settlements Development, pp.0–223. Available at: https://www.lands.go.tz/uploads/documents/en/1544030560-dar-city-plan-v1.pdf.

Ministry of Lands and Human Settlements Development. (2000).*National Human Settlements Development Policy*. Dar es Salaam: Government Printer DSM.Available at: http://www.tzonline.org/pdf/nationalhumansettlements.pdf

Okpala, D. (2009). *Regional Overview of the Status of Urban Planning and Planning Practice in Anglophone (Sub-Saharan) African Countries* . [online] *UN-HABITAT*. Available at: https://staging.unhabitat.org/downloads/docs/GRHS.2009.Regional.Anglophone.Africa.pdf.

Peter, L.L. and Yang, Y. (2019). Urban planning historical review of master plans and the way towards a sustainable city: Dar es Salaam, Tanzania. *Frontiers of Architectural Research*, 8(3), pp.359–377. doi:https://doi.org/10.1016/j.foar.2019.01.008.

Poku-Boansi, M. and Cobbinah, P.B. (2018). Are we planning for resilient cities in Ghana? An analysis of policy and planners' perspectives. *Cities*, 72, pp.252–260. doi:https://doi.org/10.1016/j.cities.2017.09.005.

Salm, S.J., Falola, T. and CoqueryVidrovitch, C. (2005). Introduction: African Urban Spaces: History and Culture. In: *African Urban Spaces in Historical Perspective*. [online] Boydell & Brewer, p.xvxl. doi:https://doi.org/undefined.

Todd, G., Msuya, I., Levira, F. and Moshi, I. (2019). City Profile: Dar es Salaam, Tanzania. *Environment and Urbanization ASIA*, 10(2), pp.193–215. doi:https://doi.org/10.1177/0975425319859175.

UN - HABITAT, Moreno, E., Arimah, B., Otieno, R., Mbeche-Smith, U., Klen-Amin, A. and Kamiya, M. (2016). *URBANIZATION AND DEVELOPMENT Emerging Futures WORLD CITIES REPORT 2016*. [online] *UN-HABITAT*. Nairobi. Available at: https://unhabitat.org/sites/default/files/download-manager-files/WCR-2016-WEB.pdf.

UN-HABITAT (2007). *Enhancing Urban Safety and Security: Global Report on Human Settlements*. London: Earthscan.

UN-HABITAT, Khor, N., Arimah, B., Otieno, R., van Oostrum, M., Mutinda, M. and Martins, J.O. (2022). *Envisaging the Future of Cities*. [online] Nairobi: UN-HABITAT. Available at: https://unhabitat.org/sites/default/files/2022/06/wcr_2022.pdf.

UN-HABITAT, Knudsen, C., Moreno, E., Arimah, B., Otieno , R. and Ogunsanya, O. (2020). *The Value of Sustainable Urbanization*. Nairobi: UN-HABITAT.

United Nations (2021). *Goal 11 | Department of Economic and Social Affairs*. [online] United Nations. Available at: https://sdgs.un.org/goals/goal11.

United Republic of Tanzania (2012). *National Report for the United Nations Conference on Sustainable Development, Rio+20*. [online] Dar es Salaam: Vice President's Office, Division of Environment,. Available at:
ttps://sustainabledevelopment.un.org/content/documents/980tanzania.pdf.

Urban Planning Act (2007). Available at: https://faolex.fao.org/docs/pdf/tan201079.pdf.

World Commission on Environment and Development (WCED) (1987). *Our Common Future*. [online] Suffolk: Oxford University Press. Available at:
https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf.

Appendices

Appendix 1; Coding Scheme of DSMCMP

Blue / Purple = 'Impact' codes
Green / Yellow = 'Strategy' codes

Deductive Codes	Inductive Codes	Category of City Issue					
		Climate Change	Equality	Informal Settlements	Insecurity	Migration	Service Provision
	Community managed resource		x	x			
	Competing land use	x		x			
Crime					x		
Cyber security					x		
Demographic dividend			x			x	
Educational limits		x	x				x
Electrical network limits							x
Emancipation of Women			x				
Extreme weather events		x					
Health issue							x
	High traffic congestion					x	x
Housing problem				x			
	Informal working sector		x	x	x	x	
Lack of social capital			x				
	Land degradation	x					
	Limited cultural services						x
	Limited financial capacity	x	x	x	x	x	x

28

Limited sanitation							x
	Low economic viability						
Low income			x				
	Low stakeholder coordination	x	x				x
Migration						x	
Militarization					x		
	Minimal data collected						x
Mobility infrastructure							x
Negative environmental impacts		x					
Pollution		x		x			
Poverty				x	x		
Rapid population growth				x			
	Sprawling urban form			x		x	x
Terrorism					x		
Unemployment				x		x	
	Urban agriculture			x			x
Vulnerable communities				x			
Water issue		x					
	Attract economic activity					x	x
Climate adaptation		x					
Climate mitigation		x					
Climate resilience		x					
Environmental conservation		x					
	Improved education facilities		x		x		x
Improved health accessibility			x				x
Improved housing quality				x	x		
Improved mobility							x
Improved safety			x		x		
Improved service infrastructure			x	x			
Increased job opportunities						x	
	Increased recreational activities		x				x

	Maintenance of facilities						x
	More shared public space		x		x		x
	New planning framework						x
	Promote dense development		x				x
Public-private partnerships							x
	Regulation of land use	x	x	x	x		x
	Research development						x

Appendix 2; Structure of DSMCMP document

Chapter	General Research	Challenges	Opportunities	Planning implications
1. Introduction	x			
2. Local and Regional Context	x			
3. Review of Existing Plans and the Existing Institutional Framework	x	x	x	x
4. The Physical Environment	x	x		x
5. Population and Demographic Characteristics	x	x	x	
6. Economy, Employment, and Incomes	x	x	x	
7. Land Use	x	x	x	
8. Housing and Residential Development	x	x	x	x
9. Social Services and Community Facilities	x			
10. Public Utilities	x	x		
11. Transport and Communication	x	x	x	
12. Development Issues and Planning Considerations	x	x	x	x
13. Generation and Development of Plans				
14. The Proposed Dar es Salaam Masterplan	x	x	x	
15. Plan Implementation, Costing, and Development Phasing	x	x	x	

Appendix 3; Policies Relating to Sustainable Development in Mainland Tanzania

*Policies ratified before 1997 were required to be revised to include sustainability goals

Year	Policy
1993	National Energy Policy
1995	National Land Policy
	Education and Training Policy
1996	National Sustainable Industries Development Policy
	National Science and Technology Policy
	The Community Development Policy
	Child Development Policy
1997	National Environmental Policy
	National Agriculture and Livestock Policy
	Fisheries Sector Policy and Strategy Statement
	The Mineral Policy of Tanzania
1998	National Forest policy
	National Wildlife Policy
1999	National Tourism Policy
2000	National human Settlements Policy
	Women and Gender Development Policy
2002	National Water Policy
2003	National Energy Policy (revised)* - requested review of sectoral policies to address sustainable development and build upon local Agenda 21
	National Trade Policy
2005	National Strategy for Growth and Reduction of Poverty (MKUKUTA)
2007	National Health Policy
2011/12 - 2015/16	Tanzania Five Year Development Plan

Appendix 4; Co-Occurrence Table of Quotation

	Attract economic activity	Climate adaptation	Climate resilience	Environment conservation	Improved education facilities	Improved health accessibility	Improved housing quality	Improved mobility	Improved safety	Improved service infrastructure	Increased job opportunities	Increased recreational activities	Maintenence of facilities	More shared public space	New planning framework	Promote dense development	Public-private partnerships	Regulation of land use	Research development
Competing land use	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	2	0
Demographic dividend	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0
Educational limits	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Electrical system limitatation	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Emancipation of Women	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
Extreme weather events	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0
High traffic congestion	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	1	1
Housing problem	0	0	0	0	0	0	1	2	0	1	0	0	0	0	1	1	1	4	0
Informal working sector	2	0	0	0	0	0	0	0	0	0	2	0	0	1	4	0	0	3	1
Lack of social capital	0	0	1	1	1	0	0	0	1	1	0	0	0	0	0	1	0	2	0
Land degredation	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited cultural services	0	0	0	1	0	0	1	1	1	0	0	2	2	0	0	1	0	1	0
Limited financial capacity	0	0	0	0	1	0	0	2	0	2	0	0	0	0	2	0	2	1	1
Limited sanitation	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0
Low economic viability	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0
Low income	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Low stakeholder coordinatio	0	1	0	0	1	0	0	0	0	4	0	0	0	0	1	0	0	1	1
Migration	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Mobility infrastructure	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Pollution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Poverty	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Rapid population growth	1	0	0	2	0	1	0	2	1	2	0	0	2	1	2	4	0	3	0
Sprawling urban form	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2	0	1	0
Unemployment	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Urban agriculture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0
Vulnerable communities	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Water issue	0	1	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	2	1

The information here is visualised in figure 5 (sankey diagram)