

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Jackson Kariuki Gathanga
Student number	4797809

Studio		
Name / Theme	Planning Complex Cities	
Main mentor	Caroline Newton	Urbanism
Second mentor	Ellen van Bueren w/ Lucy Oates (PHD - MBE)	MBE
Argumentation of choice of the studio	<p>The studio deals with the investigation of cities as complex systems, through the approach of spatial planning strategies, participation and territorial governance. With this studio therefore, I aim to review and redefine the structure of primary African cities through the regional socio-cultural and economic context of the majority of their urban population (the urban peripherals); specifically, as an outcome of historical and current global planning and governance cultures, traditions and ideologies. This will then provide a setting for advocacy in distributing the benefits and burdens of the primary cities to networks of secondary cities, that serve as an absorptive link of rural-urban socio-technical systems. The motivation for my research includes an attempt to provide solutions that will enable African cities leapfrog the ‘unsustainable’ industrial global mega-city urban structure that has thrived elsewhere in the world.</p>	

Graduation project	
Title of the graduation project	CITIES FOR NOMADS; Leveraging transitory rural-urban networks in Nairobi’s peripheries through regional agro-ecological systems; A guide to extraterritorial city planning in Kenya.
Goal	
Location:	Nairobi region, Kenya
The posed problem,	With a projected 3% population growth rate towards 2030, (United Nations, 2018) the city of Nairobi is expected to continue its dominance as the main urban centre in Kenya, if the current trend persists. However, given its approximately 20% contribution to the country’s GDP (KNBS, 2018) against the few opportunities available for a growing internal population and increased rural-urban migration, some economic experts

have warned on the need to check this economic concentration as it will only exacerbate growing inequality (Opalo, 2019).

The current governance regime continues to invest in further expansion and development of the city – under the banner of the Nairobi Metropolitan Services Improvement Project – with current policies and strategies geared towards urban agglomeration and metropolization. This is a clear indication of the current governance agenda which seemingly follows the developmental State model as defined by Swilling (2012), whose focus is on appealing to a collective urban imaginary of modernist utopian metropolitan cities. This has greatly served in propagating the already critical socio-spatial inequality that is prevalent within many neighbourhoods of the city. Consequently, the growing peripheral population that survives on supporting the formal service industries, continues to grow. A growing neoliberal planning and governance mindset and the spatial demands it imposes on the city have led to a structure of splintered urbanism that promotes formal network infrastructures and technological mobilities, against reducing opportunities for the majority of urban residents.

We must however start by acknowledging that the socio-cultural and economic structures of African cities, especially Nairobi, remain substantially different from those of ‘global north’ cities, which developed on the backbone of industrialization and modernist infrastructure models. These differences can be clearly observed in the demographic and socio-economic patterns that define these cities. Observations of the structural patterns of Nairobi, generally indicate that it operates mainly as a functional node in a regional network of flows for goods, services and people. The city is highly regionally relevant, portraying strong socio-cultural, economic and political ties to its rural hinterlands. This phenomenon, similarly observed in other African cities, is tied into a complex system of ethnic, family or religious ties that bind the urban migrants to

their rural homes (Bruner et al., 2010). Rural-urban links are therefore quite prominent and are a crucial part of everyday urban-life in the city peripherals.

With growing awareness of resource scarcity and climate awareness that hinders the neoliberal approach to planning, Nairobi cannot afford to continue employing catch-up planning strategies through modernist socio-economic development models. There is a great need, to leap-frog some of these unsustainable development growth patterns and develop urban redevelopment structures based on the socio-cultural and economic structures of the majority populations, their strengths and capacities. The complex context of urbanization in Kenya requires alternative models of growth that build up on the nature of its everyday urban contexts and capacities. Addressing these social inequalities propagated by increasing spatial segregation will be key to achieving sustainable development (Gaigbe-Togbe, 2015). Governance and development agendas in Nairobi can begin by leveraging on the socio-cultural rural-urban links highly prevalent in the majority of the urban population as well as their socio-economic activities. According to the Kenyan economic survey of 2020, agriculture still accounts for a large portion of Kenya's GDP (approximately 30%) while creating employment for a large amount of Kenyan's within the Nairobi metropolitan area and its surroundings (KNBS, 2020). This proposal, by acknowledging the socio-cultural and socio-economic trends prevalent within the peripheral populations, takes the discussion further by looking at the agro-ecological sector as an example of how this regional links can promote a more sustainable system of regional urbanism, by linking currently practiced urban and peri-urban agricultural systems at a regional scale.

This research therefore aims to reconcile the prevalent rural-urban socio-economic and cultural patterns prevalent in the peripheries with regional spatial patterns in the agro-ecology industry to provide ecological leapfrog urban redevelopment opportunities for sustainable

	<p>human development. The proposal seeks to identify a potential for transformation in strategies and systems that could be harnessed to promote sustainable transitions for regional urbanisation specifically addressing the socio-economic situation of underserved groups in the peripheries of primary cities. It will seek to reconcile the cultural, socio-spatial networks that forms the backbone of Nairobi's urban peripheries, with productive regional agro-ecological principles, into an adaptive system that addresses the vulnerabilities of rural-urban migration into the Nairobi metropolitan area. This will then be used to propose a regional urban development strategy that contrasts the urban primacy development model that characterizes the city of Nairobi.</p>
research questions and	<p>MAIN RESEARCH QUESTION; How can agro-ecological systems leverage on the rural-urban socio-cultural and economic links prevalent in Nairobi's peripherals to promote sustainable and just regional urbanisation?</p> <ol style="list-style-type: none"> 1. What are the rural-urban social-cultural links prevalent in the everyday lifestyles of Nairobi's peripheries? 2. What are the main rural-urban socio-spatial agro-ecological systems prevalent within Nairobi peripherals? 3. What are the conflicts and opportunities of the spatial reconciliation of sustainable rural and urban agro-systems? 4. What is sustainable and just urban transitions for the Kenyan urbanisation context? 5. What technical infrastructure & planning systems best enhance the rural-urban links at city-region level?
design assignment in which these result.	<p>1.City-regions urbanisation vision. The aim of the proposal is to develop a balanced and sustainable framework for regional urbanisation that advocates for investments in secondary cities, peri-urban areas and rural areas over the normative primary city approach as observed in the case of Nairobi.</p> <p>2.Regional agro-ecological strategic framework;</p>

	Integrates a design and planning component that supports the regional urbanisation framework as a case example of how regional systems thinking and governance can promote sustainable urbanisation transitions in Kenya.
Process	
Method description	
<p>This section will outline the methods to be used in answering the Research questions posed.</p> <p>1. Literature and Theory Review; socio-cultural production of space/ rural urban links/agro-ecological principles/regional agro-ecology</p> <p>This method is used to provide fundamental knowledge and theories about the main concepts outlined in the thesis. Through the review of Peer reviewed articles, books, video documentaries, recorded interviews etc, the theoretical information about rural-urban phenomena in Kenya is developed as well as the agro-ecological aspects of food systems.</p> <p>Statistical data analysed from the Kenya National Bureau of Statistics was also quite helpful in analysing the current socio-economic situation of Nairobi and forming hypothetical conclusions for further analysis.</p> <p>2. Document and Policy Analysis - governance and policy documents</p> <p>Through the sustainable theories approach, Governance was classified as a different category of analysis i.e., the ‘Regime’ and hence the analysis of policy documents, administrative documents such as constitutional acts and amendments is done separately, although it also provides critical information for the development of conceptual knowledge also used in the theoretical review. The independent analysis is therefore done to answer specific research question.</p> <p>3. Mapping & Cartography- mapping trends/ spatial information/ networks etc.</p> <p>Mapping existing situations through satellite data and existing opensource GIS datasets is essential for understanding and analysing the current spatial distribution of socio-economic phenomena in Nairobi. Further mapping through layering of datasets and will be done in response to the research questions to understand how the issues highlighted could change in future or could be addressed.</p> <p>4. Stakeholder Analysis - identification, analysis and engagement.</p> <p>In the case of socio-cultural issues and the rural-urban phenomena, the definition of the peripherals provides the overall stakeholder population being addressed by the thesis.</p> <p>However, further analysis of state actors and civil society groups was done to identify individuals involved in the agro-industrial sector. A further analysis of this groups is done to establish stakeholder groups specifically focused on agro-ecological aspects of the agriculture industry and their contribution to the sector. List of stakeholders are identified in the relevant sub-questions.</p> <p>5. Fieldwork</p>	

This will be done through a site visit of the case area defined in the thesis. The main elements of the field work to be carried out will involve;

- a. Semi-structured Interviews
- b. Questionnaires
- c. Photography, sketching, mapping

6. Case studies

Two case studies have currently been identified for analysis in the thesis.

1. The Stellenbosch ecovillage institute will be analysed to analyse how Spatial implementation of sustainable agro-ecological principles can be actualized.
2. The Ugandan network group Participatory Ecological Land Use Management (PELUM) will be analysed as a case study of multi-scale agro-ecological governance structures in order to better understand how the agro-ecological sector can be analysed from a sustainable transitions theory approach.

Other case-studies of institutions practicing sustainable spatial development practices in Kenya will also be identified and analysed.

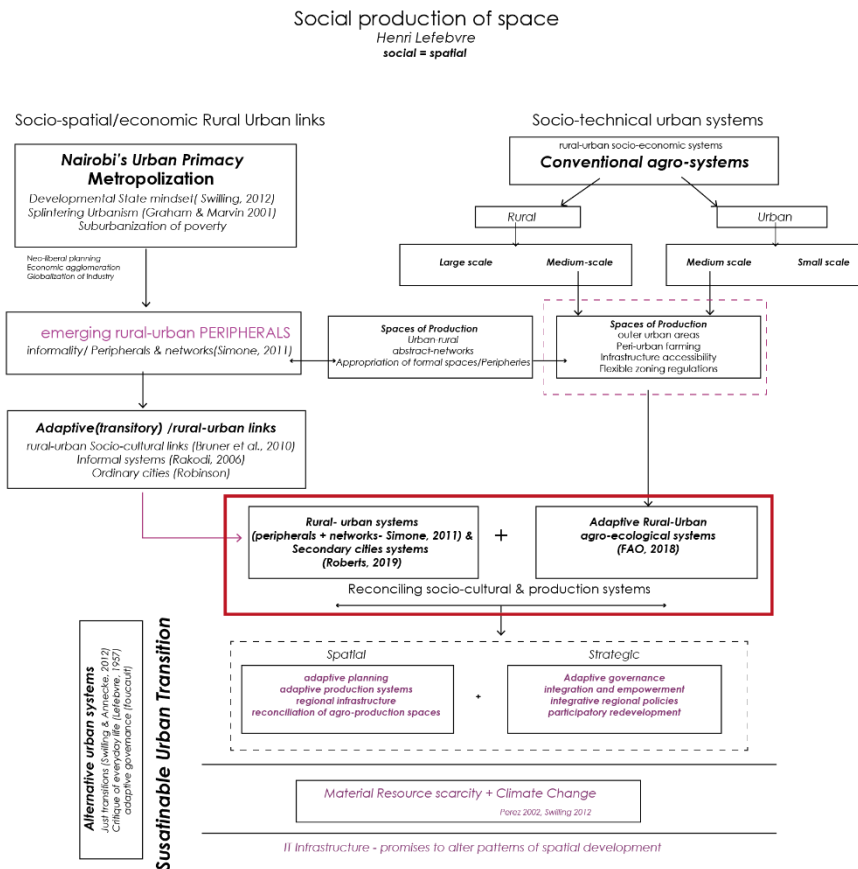
7. Online Forms and Questionnaires

A main questionnaire covering the questions to be asked to respondents in the field was developed in order to exhaustively cover the research questions that are posed in this research. This will be asked through a semi-structured interview approach to ensure clarity of questions and responses. The questionnaire is highlighted in Appendix 4 of the report.

Prior to the field semi-structured interviews, an online form highlighting the main areas to be addressed in the field questions was developed to gauge the conceptual understanding already developed through the literature review.

8. Outputs; Test by Designs

Literature and general practical preference



Introduction

Literature on the impact of urbanization in Africa, has been commonly engaged in issues of the growth and persistence of informality in urban areas in the global south¹ mainly with a sympathetic approach to the spatial setting. Few have gone further to critically analyse the informal as a symbiotic system to neoliberal planning, particularly strengthened by historical events and status quo planning regimes by subsequent governments. This paper explores these gaps further. These persistent neoliberal regimes have led to the decline of local productive manufacturing industries and relegated majority of the increasing urban populations to low-value secondary service industries particularly in the agro-ecology sector. An understanding of the vulnerability, flexibility and adaptiveness of the peripherials on economic, social and spatial levels exposes the strong links between the rural and the urban, as well as how the existence of these links serve not only as buffers to the vulnerabilities of urban life on the peripherials, but as a supportive system to the gaps created by uncreative liberal planning regimes in most primary cities. This creates a case where cities function not only as territorial bounded productive nodes, but also as extraterritorial multi-scale systems that depend on the reactions of multiple actors - especially those within the peripherials - to unpredictable opportunities and threats. In the peripherials the temporary appropriation techniques that majority of the population is involved in, leave individuals

¹ Although we do not agree with the ambiguous geographical split of territories by urban geography literature into north and south, we continue to use the terms, Global south and Global north in this paper as commonly used in existing literature for consistency and clarity.

with no choice but to indiscriminately engage the opportunities as well as vulnerabilities of a constantly changing environment, contrary to their counterparts in the formal sector who experience everyday urban life through the structures of organized systems. This article begins by illustrating the symbiotic nature of neoliberal planning and informal systems which then reinforce the growth of networked rural-urban links which serve as release mechanisms from the vulnerabilities encountered in primate cities. We then identify that through the temporariness approach of this links, actors within the peripheries are constantly actively engaged in numerous urban ecosystems, which take advantage of the gaps within the formal system, in a bid to secure a livelihood. Finally, taking into consideration these observed links, we introduce the system of regional agro-ecology as a possible sustainable connection that governance structures can harness to promote the transition to a more sustainable regional system of urbanization for African cities. This will act as a response to projected increases in rural-urban migration and urban population growth. We clearly observe a situation where, as the peripherals continues to spread, patterns of temporality emerge, that link rural attitudes to the urban enclaves they appropriate. This creates a system of cities that function not only as nodal points in a global system of mobile capital and industry, but also as regional systems that support different engaged actors and systems at multiple scales.

Neoliberalism – The irony of planning for liberal markets

The neoliberal revolution began in the 70's in the global north² with the decline of Keynesian ideas and the rise of the Reagan-Thatcher economic revolution that advocated for the deregulation of the financial sector and the privatization of the public service (Hulleman, 2017). In the urban field this literary translated to reduced state influence on planning and a free rein to liberal markets to shape the structure of urban areas and their productive systems. The neoliberal economics approach is based on the assumption that growth is the main driver of any economic policy. A substantial amount of literature has subsequently focused on the impact of this neoliberal revolution on the production of urban space (Harvey, 2005 (Peck et al., 2012)). Through this literature we see a trend where neoliberal planning has developed a set of actor-system conflicts where the state has relegated most of the urban spatial output to the markets which now shape the city on the whims of shareholder ideals and benefits. As (Carmody & Owusu, 2016) imply; conflict arises in this case, as corporations' "strategic impetus is profit, while states struggle with a complex range of motives, including, often, the preservation and deepening of the conditions for capital accumulation, the desire to achieve legitimacy or hegemony and to perpetuate regime maintenance." Therefore, we see a situation where the relationship between the state, markets and the citizens is in constant conflict and unfortunately in African cities, the free-markets³ continue to take the lead in the unabated production of urban systems due to the allure of individualistic success associated with it. This free-market approach has led to the globalization of trade which enables the unhindered movement of capital across the globe where it's impact on local urban contexts plays out vividly in African cities through a repetition of monotonous, context inappropriate and uncreative urban settings, reflective of the producer and consumer service industries that support it.

The neoliberal approach, globalization, and the utopia of global cities in Africa.

Urban Development continues to be supported by the positive review of its impact on promoting human development alongside economic development especially in the global north. However, this is not the case for development in the global south where we see that increased urbanization has

² Refer to footnote 1.

³ We believe that free-markets is an oxymoron, since the success of market-driven economics heavily relies on tools of planning (such as land-use management) that are controlled by the state.

unfortunately not been commensurate to the increase in economic prosperity visible in previous patterns in ‘developed countries’ (United Nations, 2018). In the African context, neoliberal planning backed by the highly sought-after global mobile capital has in recent years resulted in utopic developmental ideas such as attempts to convert existing cities to modern global or technological cities and in extreme cases the tabula rasa urbanism of new towns (e.g., Konza city in Kenya, Eco-Atlantic in Nigeria, Kilamba in Angola etc.). This builds on a perceived need to establish ‘world class cities’ (Roy and Ong, 2011) which cater for global enterprises, high quality services and financial sectors, elite and expat residents, and tourists (van Noorloos & Kloosterboer, 2018). This form of neoliberal planning has only served to create an inclusion-exclusion system that is now prevalent in major primary African cities, where instead of focusing on the structural inequalities and vulnerabilities prevalent in the peripherals, we see attempts by markets to create enclaves and escapist structures that only exacerbate social inequalities through spatial segregation. This has created conflicting interests within state planning actors as they are relegated to serving the interest of the markets while unsuccessfully attempting to engage growing inequality. As Sager (2011) points out, this emphasis on production and economic efficiency rather than the redistribution and fairness in growth only increases the challenges that planners and planning faces, and this will subsequently have a profound impact in the development of liveable cities for all.

More importantly, African cities have a historical layer of colonialism that has served to shape the current structures of inequality. As Simone (2010) describes it; ‘the failure to integrate the city through the distribution of goods that would support economic activity and increase incomes stems from the colonial history of many of these cities.’ Attempts to ignore these underlying historical backgrounds will only extend the accumulation of internal pressure on the hoodwinking layers of development that current governance systems attempt to enforce. The inclusion and exclusion of different population groups in the city through the demands of financial systems is therefore a system seamlessly propagated from colonialism to current global neoliberal systems. The only visible change being the addition of extra population groups such as migrants and refugees into the already marginalized local groups (Campbell, 2013)

The consequent rise of the peripherals

By using the term peripherals in this paper, as used by Simone (2010), in place of the commonly used term ‘informal’, we strive to provide a structural setting both at a socio-economic and spatial level, while abandoning the ‘formal-informal’ discourse, as we believe that the informal, not only in the African context but globally, is a clearly negotiated context within the formal. The concept of distance from the center, alluded by periphery, attempts to encompass the socio-economic, political and spatial structure of the ‘formal-informal’ setting. We do not however attempt to make light of the vulnerabilities experienced in the peripherals or relegate them to a different discourse. We approach the peripherals from a socio-economic empowerment perspective over the usual sympathetic approach which has viewed the setting as a space for continued top-down assistance-needy engagements. The existence of the peripheral in this case, not only serves the needs of the informal, but also provides the opportunities for the formal to operate within the informal. We take the view of the peripherals as a network of actors and systems that are integral in reshaping the urbanisation process in global south cities. As (Banks et al., 2020) elaborate, the informal should be observed as a site of critical analysis to be understood at multiple scales. The peripheral then, in contrast to formality, can be seen as a different set of rules negotiated and enforced by diverse actors who frequently include, but go beyond,

city-based or national systems. Therefore, it is simply not only about the lack of rules and regulations or the ungoverned.

Spatially the growth of the peripherals can be attributed to increasing rural-urban migration and internal population growth within cities which has put immense pressure on the weakened governance structures now prevalent in African cities. A lack of proper integration structures to the neoliberal planning products only exacerbates this issue. Additionally, we continue to observe reducing economic opportunities that result from the reduced productive systems in local industries, as highlighted earlier. This has led to the constant growth of peripheral economies and settlements to cater for the increasing needs of this population. The peripherals are left to serve the gaps in the main service industry and the marginalized groups through small-scale economies. This means that their inclusion serves in; growing the consumer economy with a reduced impact on the producer economy. They also provide a reserve of cheap labour for global financial systems which is a prerequisite for elite capital accumulation and economic growth. Owusu (2014) refers to this phenomenon as the functional dualism of African primary cities. Most individuals in the peripherals are engaged in low-value industries with little access to finance for growth. Despite the growing inequality we acknowledge that economic development does indeed require growth. Our concern on the spread of the peripherals is therefore focused on the nature of this growth and what lessons can be drawn from its support of the gaps of normative planning systems. The relationship between economic growth and poverty is a major point of concern in understanding the rise of the peripherals. Despite the over-reliance on trickle-down economics, in the current neoliberal approach to urban development, the type of governance related to desired growth is also a major factor for consideration in how inequality spreads (United Nations, 2016)

Current responses by governance systems to the growth of the peripherals are similarly not encouraging. We can clearly observe a frustrating lack of creativity in neoliberal responses to the challenges of urbanization in the global south. Concepts of formalization currently in practise in Africa, are heavily borrowed from the East. As Simone (2010) observed in changes that were taking place in Jakarta, elevated toll roads, mega-projects, premium end residential and commercial zones and upscale leisure areas seamlessly disintegrated from one another were the order of the day. In 2020, the same spatial systems observed a decade ago in the East, are in play in African cities with little or no change to this system of development. The techniques of dealing with informality through gentrification are similarly not new in the case of Africa and are just as unapologetically imitative. Accumulation by a few elites and socio-spatial developments to cater to a minority group who operate in the producer service industry of this mobile capital systems only exacerbates dispossession of the majority. These neoliberal systems are heavily focused on spatial agglomeration within the city centres and urban enclaves in proximity to each other. As observed in the case of Manila by (Ortega, 2016), this form of metropolitan development is grounded upon an on-going neoliberal warfare of accumulation by dispossession. These are clearly the spatial elements of global mobile capital in African urban centres which leave in their trail an imitative model of splintering real-estate and transport infrastructure with little regard of the variations in local contexts. This has greatly fast-tracked the marginalization of populations in the peripherals.

The emergence of rural-urban links in the peripheries; detachment to city life.

Acting on the margins however, populations in the peripherals have become adaptive and resilient to these vagaries of oppressive, seemingly uncoordinated systems. For instance, an observation of the structural patterns of Nairobi-Kenya, generally indicates that it operates mainly as a functional node in a regional network of flows for goods, services and ideas. African urban centres remain highly regionally relevant, portraying strong socio-cultural, economic and political ties to their rural

hinterlands. This is tied into a complex system of ethnic, family or religious ties that bind the urban migrants to their rural homes(Bruner et al., 2010) These socio-economic ties remain highly fluid and ambiguous operating within the urban, peri-urban and rural sites, specifically within the networks of the peripheries.

The mobile and regional impact therefore becomes noticeable in specific systems and networks operating within the peripheries, for instance in the energy provision systems, agro-ecology, tourism, micro-finance, accommodation etc. An in-depth observation of these everyday systems in the peripheries is needed to identify potential urban governance systems that would promote sustainable urbanization. To fill these gaps in literature, a critical analysis of some of these specific systems can establish how the peripheries through urban-rural links provide services to both the primary systems of urban life and the rural networks. The strategies, socio-economic, or political structures that have developed over time within these peripheries, in an attempt to adapt to the terror of a system of governance that only sees the potential for modernity over a reality of adaptiveness, can be used to establish regional links to sustainable urbanization. The city therefore goes beyond the structural setup of infrastructure that is normative in literature from the global north. In the African urban scene it continues to operate as an extraterritorial system with the link between the rural and the urban lying somewhere in the gray areas of the peripheries and this supports constant claims that, it is these relationships that have prevented the collapse of poorly managed rapidly growing African urban centres into chaos (Hussein & Suttie, 2016; Rakodi, 2006).

Extraterritorial systems

To better analyse this extraterritorial system of the city within the peripheries, we will have a brief look at how one system, agro-ecology, can be used as a link to enhance a sustainable approach of regional urbanism in African cities. By agro-ecology, we refer to the agriculture ecosystem, the involved actors and their relation to the environment. This can serve as a link for primary cities to their surrounding regions. Hooton et al., (2007) have shown that urban agriculture and livestock keeping have been important livelihood strategies for women, the urban poor and vulnerable households in African cities. However, this should be applied with caution as it is far from adequate as a system of empowerment as other literature might also suggest. (Crush, Frayne & Pendelton, 2012) As we acknowledged earlier, these systems have to establish a sustainable pattern of growth for them to be sustainable in economic empowerment. The production and trade in agricultural products provide a suitable link to analyse the rural-urban link as most rural-urban migrants in global south cities are still engaged in one form of agriculture or the other. (source) The populations in the periphery are largely involved in the production of food in the peri-urban and urban, for their consumption and distribution as well as providing market links for agricultural products from the rural areas. Similarly, markets link rural activities to cities and larger regions via trade, enabling rural agricultural production in one location to benefit other distant places(Boudet et al., 2020). (Robineau & Dugué, 2018) clearly capture the complicated system of actors, scales and strategies within the African rural-urban agro-system when referring to urban agriculture;

“...it is a complicated system involving multiple spatial scales (rural, peri-urban and urban) and actors (with multiple socio-economic profiles). The drivers of this diversity reflect the contrasting socio-economic and political contexts that surround its development.”

These spatial dynamics through various studies on Urban agriculture in Sub-Saharan Africa (Drechsel and Dongus (2010), Brinkmann et al. (2011)) indicate the spatial-temporality and diversity of locations within the urban setup and primarily within the spatial peripheries. There is therefore great potential

for agro-ecology to engage with the issues facing urbanization in African cities. Some of the positive factors that could promote these agro-ecological systems include; increasing urbanisation and demand on specialized food systems, the need for improved productivity in African agriculture, the potential for domestic and international markets, employment and empowerment opportunities for the youth, gender equality and women empowerment, etc. (Hussein & Suttie, 2016)

While an increasing amount of literature is concerned with food security, and specifically the rural food production systems and how productivity can be improved, we suggest that there is a need to go a step further into analysing the socio-spatial, economic and governance systems through a multi-scale approach (urban, peri-urban and rural) of the agro-ecological system. Additionally, there is a need to investigate how they could enhance territorial links that are not only place specific but network forming, as an attribute adapted from the peripheries. Similarly, with the projected population boom in African cities, the arising issues will not only be about spatial accommodation concerns in urban areas but also about the competing spatial claims from declining arable lands and a need to increase yields to feed this growing population (Swilling & Annecke, 2012) - a concern that crosses regional boundaries. Abandoning these systems to the neoliberal approach of food production witnessed across the globe will only serve to create monopolies and further marginalize the urban poor in African urban centres who heavily rely on the agro-ecological system as a source of livelihood.

As agro systems are already considered to be fluid and networked (Boudet et al., 2020) it is important to understand the symbiotic structure of rural-urban systems and how they have managed to use some informal strategies as observed in the peripheries to negotiate the socio-economic and political systems that control these systems both locally and globally. We specifically focus on regional systems as opposed to only urban agriculture, as it currently represents less than 20% of urban residents' ecosystem in African urban areas as compared to the regional approach. (Battersby, 2013) The potential for urban agriculture remains high, but the reality is that food systems remain largely regional. It will also be important to focus on ways to integrate these systems through technological leapfrogging strategies so as to avoid falling into the trap of small-scale systems that have limited potential for sustaining the economic growth necessary for empowering vulnerable groups. We find that policies that focus mainly on small-scale systems fail to acknowledge the factors of economics related to the growth of systems and hence can easily overlook benefits related to sustainable growth.

The case for territorial cities in Africa

Therefore, besides the focus on tackling vulnerabilities in the peripheries, we see potential for empowering regional strategies prevalent within the peripheries as triggers for extraterritorial urban growth in African cities. Through the approach of the agro-ecological sector, we observe interdependencies between the rural and the urban at a regional scale spatially, economically and politically. As (Hussein & Suttie, 2016) observe; territorial, regional and other spatial approaches to planning, governing and developing food systems and the ecosystems upon which they rely can address these interdependencies.

“It is therefore increasingly recognized that a territorial approach and systems perspective that encompasses the complex range of actors and interactions relating to food production, processing, marketing and consumption within a regional space is needed. A “city-region food system” approach tries to do this by including the small and medium-sized towns that provide critical links between rural producers and urban services, markets and employment opportunities” (Forster, Hussein and Mattheisen, 2015).

REFERENCES & BIBLIOGRAPHY

Calabrese, L. (2020) AR3U013, Theoretical Framework.

Crawford L. M. (2020), Conceptual and Theoretical frameworks in research: SAGE.

<https://docplayer.net/155038741-Conceptual-and-theoretical-frameworks-inresearch-linda-m-crawford.html>

Creswell, J.W.; Creswell D. J. (2018), Research Design. Qualitative, Quantitative, and Mixed Methods Approaches (5th edition). Thousand Oaks, CA: SAGE. [Chapter 2: Review of the Literature and Chapter 3: The Use of Theory]

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Banks, N., Lombard, M., & Mitlin, D. (2020). Urban Informality as a Site of Critical Analysis. *Journal of Development Studies*, 56(2), 223–238.
<https://doi.org/10.1080/00220388.2019.1577384>

Battersby, J. (2013). Hungry cities: a critical review of urban food security research in Sub-Saharan African cities. *Geography Compass* 7(7), pp. 452–463.

Boudet, F., MacDonald, G. K., Robinson, B. E., & Samberg, L. H. (2020). Rural-urban connectivity and agricultural land management across the Global South. *Global Environmental Change*, 60(September 2019), 101982.
<https://doi.org/10.1016/j.gloenvcha.2019.101982>

Brinkmann, K., Schumacher, J., Dittrich, A., Kadaore, I., & Buerkert, A. (2011). Analysis of landscape transformation processes in and around four West African cities over the last 50 years. *Landscape and Urban Planning*, 105(1-2), 94–105

Bruner, E. M., Gutkind, P. C. W., Horowitz, M. M., Little, K. L., Mccall, D. F., Mayer, P., Miner, H., Plotnicov, L., Schack, W. A., & Epstein, A. L. (2010). and Social Change in Africal Urbanization. *Current*, 8(4), 275–295.

Campbell, S. D. (2013). Sustainable Development and Social Justice: Conflicting Urgencies and the Search for Common Ground in Urban and Regional Planning. *Michigan Journal of Sustainability*, 1(20181221). <https://doi.org/10.3998/mjs.12333712.0001.007>

Carmody, P., & Owusu, F. (2016). Neoliberalism, Urbanization and Change in Africa: the Political Economy of Heterotopias. *Journal of African Development*, 1818(January), 61–73.

Crush, J., Frayne, B., & Pendleton, W. (2012). The crisis of food insecurity in African cities. *Journal of Hunger and Environmental Nutrition*, 7, 271–292.

di Berardino, C., & Onesti, G. (2020). The two-way integration between manufacturing and services. *Service Industries Journal*, 40(5), 337–357.
<https://doi.org/10.1080/02642069.2018.1438415>

Drechsel, P., & Dongus, S. (2010). Dynamics and sustainability of urban agriculture: Examples from sub-Saharan Africa. *Sustainability Science*, 5, 69–78.

- Forster, T., Hussein, K., and E. Mattheisen. 2015. City Region Food Systems: An Inclusive and Integrated Approach to Improving Food Systems and Urban-Rural Linkages. *Urban Agriculture Magazine*, 29: 8-11.
- Harvey, David. *A Brief History of Neoliberalism*. Oxford University Press, 2005. Print.
- Hooton, N., Lee-Smith, D., Nasinyama, G., Romney, D., in collaboration with Atukunda, G., Azuba, M., Kaweesa, M., Lubowa, A., Muwanga, J., Njenga, M., Young, J. (2007). Championing urban farmers in Kampala; Influences on local policy change in Uganda. ILRI Research Report No. 2, in collaboration with ODI, Urban Harvest and KUFSALCC. International Livestock Research Institute, Nairobi, Kenya. p. 92.
- Hulleman, J. (2017). *CONTESTING NEOLIBERAL URBANISM*.
- Hussein, K., & Suttie, D. (2016). *IFAD RESEARCH SERIES 5 - Rural-urban linkages and food systems in sub-Saharan Africa: the rural dimension*.
<https://doi.org/10.22004/ag.econ.280043>
- Kenya National Bureau of Statistics. (2020). Economic survey 2020. In *Economic Survey 2020*.
<https://doi.org/10.4324/9781315016702>
- Ortega, A. A. C. (2016). Manila's metropolitan landscape of gentrification: Global urban development, accumulation by dispossession & neoliberal warfare against informality. *Geoforum*, 70, 35–50. <https://doi.org/10.1016/j.geoforum.2016.02.002>
- Owusu, F., D'Alessandro, C., and Hanson, K.T. (2014) 'Moving Africa Beyond the Resource Curse: Defining the 'Good Fit' Approach Imperative in Natural Resource Management and Identifying the Capacity Needs', In K. T. Hanson, C. D'Alessandro and F. Owusu (Eds) *Managing Africa's Natural Resources: Capacities for Development*. Palgrave MacMillan, pp 206-225
- Peck, J., Theodore, N., & Brenner, N. (2012). Neoliberalism resurgent? Market rule after the Great Recession. *South Atlantic Quarterly*, 111(2), 265–288. <https://doi.org/10.1215/00382876-1548212>
- Rakodi, C. (2006). Relationships of power and place: The social construction of African cities. *Geoforum*, 37(3), 312–317. <https://doi.org/10.1016/j.geoforum.2005.10.001>
- Robineau, O., & Dugué, P. (2018). A socio-geographical approach to the diversity of urban agriculture in a West African city. *Landscape and Urban Planning*, 170(September 2017), 48–58. <https://doi.org/10.1016/j.landurbplan.2017.09.010>
- Roy A and Ong A (eds) (2011) *Worlding Cities: Asian Experiments and the Art of Being Global*. Malden: Wiley-Blackwell.
- Sager, T. (2011) 'Neo-liberal urban planning policies: A literature survey 1990–2010,' *Progress in Planning*, 76: 147–199.
- Simone, A. (2010) *City Life from Jakarta to Dakar; Movements at the Crossroads*. Taylor & Francis Routledge.

Swilling, M., & Annecke, E. (2012). *Just Transitions; Explorations of Sustainability in an unfair world*.

United Nations. (2016). *Global Sustainable 2016 Edition Global Sustainable*. 88.

United Nations. (2018). The World 's Cities in 2018. The World's Cities in 2018 - Data Booklet (ST/ESA/ SER.A/417), 34.

van Noorloos, F., & Kloosterboer, M. (2018). Africa's new cities: The contested future of urbanisation. *Urban Studies*, 55(6), 1223–1241.
<https://doi.org/10.1177/0042098017700574>

Wolff, E. N. (2006). The growth of information workers in the US economy, 1950–2000: The role of technological change, computerization, and structural change. *Economic Systems Research*, 18 (3), 221–255. doi:10.1080/09535310600844193

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

This graduation project relates to the studio of planning complex cities based on the setting of its geographical location of Nairobi, Kenya. It also looks at the relationship between complex socio-cultural and economic factors that influence city development and how they can be addressed in promoting more sustainable and progressive urban environments. Within the Complex Cities studio, the research lies between the bridge of regions in transformation due to the proposed regional vision of primary cities and critical engaged practice, by acknowledging the complex socio-cultural patterns of urban living that influences the spatial development of the city i.e Nairobi. It falls under the track of Urbanism due to the focus on cities' approach within the main Master programme of AUBS.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework?

This research will seek to investigate the regional socio-cultural and socio-economic potential of primary African cities. This points to a potential for knowledge development in how primary global south cities should develop, with regards to the socio-cultural structures and identity attached to the majority of their urban populations. The main aim of the research is to provide solutions for the majority population of primary cities in Kenya, who are the individuals in the peripheries, by acknowledging their socio-cultural rural-urban networks and economic activities that enable their engagement within the formal city structures. Huge importance has previously been placed on the economic performance of global south cities in comparison to those of the global north, while neglecting the socio-cultural histories and structures that govern the everyday life of the urban dwellers. This research through acknowledging the need for more sustainable urban settlements with a forecast to climate change and resource scarcity awareness, advocates for more ecological socio-technical systems ie. Agro-ecology in an attempt to promote radical shifts in conventional urban

systems. Participatory approaches that empower the bottom of the chain actors are encouraged while attempting to identify solutions that will convert low value systems into high-value systems.

In the professional field, the aim of this research, would be to add onto the growing body of knowledge, from the global south, that advocates for an equally distributed system of urbanization based on the regional socio-cultural and economic movement of individuals across urban areas, to tackle the rapidly increasing rural-urban migration and check the overemphasis on primary cities.

On the scientific field, the use of the Multi-level perspective of the Sustainable transitions' theory as an analytical tool for the data to be collected aims to provide relevant feedback on its validity of use in the global south context. Its flexibility as an analytical tool, provides a good opportunity to ground the socio-technical concept of agro-ecology as discussed in this research and will therefore provide an opportunity to review its benefits and shortcomings.