
FACING RAPID URBANIZATION: A CENTURY OF EAST AFRICAN URBANISM

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East-Africa is one of the least urbanized regions in the world, but living one of the fastest urbanization. Its urban history has roots in the cosmopolitan Swahili culture and common experiences related to British and German colonialism and the East African Community. During the 20th century it has been a great laboratory regarding the effort of ordering growth according to very different political visions and social projects. Almost everything has been tested in planning and urban design, with a relevant gradient of determinism in the designing efforts, from total to minimal. The East-Africans are excellent samples of contemporary metropolises facing the unstoppable proliferation of informal growth, due to uncontrolled migrations and unsustainable development. Dar-es-Salaam, Nairobi, Mombasa, Kampala, Kigali, Zanzibar are rapidly urbanising with more than half of this growth occurring informally. From the beginning of their urban history all these cities have faced the issue of hosting different communities with different lifestyles, symbols, rituals, fears and public spaces. Their urban history reveals the relevance of urban architecture in determining their future. The paper proposes an overview on urban design and planning attempts over the last century, investigating their influence in driving city growth and discussing their teachings for contemporary openings.

Keywords

African urbanism, rapid urbanization, metropolitan architecture, African urban history

How to Cite

Frigerio, Alessandro. "Facing rapid urbanization: a century of East African Urbanism". In Carola Hein (ed.) *International Planning History Society Proceedings, 17th IPHS Conference, History-Urbanism-Resilience, TU Delft 17-21 July 2016, V.06 p.067, TU Delft Open, 2016.*

DOI: <http://dx.doi.org/10.7480/iphs.2016.6.1323>

RAPID URBANIZATION: THE UN-DESIGNED AFRICAN METROPOLIS

For the first time in human history, since the beginning of 21st century, half the global population is living in urban areas. Moreover, according to UNHABITAT out of the thirty cities with the highest rate of growth in the next decade, twenty-four will be African¹. Even if some recurrent issues were already faced by the first euro-urban colonizers, unprecedented are now the scale and the speed of the urbanization phenomenon, together with an unfortunately proportioned scarcity in terms of economical and knowledge resources. Most of the urban growth happens out of traditional planning terms, with the result of combining inadequate infrastructure, polarized development, unsafety, inequality and environmental fragility². How is it possible to shape rapid growth, driving it sustainable, in this context of informality, scarcity and misgovernment? The current scenario is forcing the development of original conceptual frameworks, questioning the political meaning of urban form. Through an historical exploration and an overview on the contemporary situation, this paper aims at investigating the attempts to re-centre the problem on the city as public framework. In search of the determinants of metropolitan form, it's possible to discuss the persisting relevance of urban and architectural design in dealing with the present challenges.

URBAN NARRATIVES AND SPATIAL ORDERING FRAMEWORKS: THE PROJECT OF THE CITY

Along history different urban models were set up through ordering urban frameworks as physical materialization of a collective agreement on certain priorities. Priorities are determined by concurrent powers (public, private, commons) according to the economical-political scenario linked to a valuable narration, was it political or religious. It's possible to redefine the concept of order as a project rather than an accomplished state³; a project produced by an aware modelling effort. Spatial order and social order are tightly linked and the project of the city from Romans, to Renaissance, to the Modern Era has been a political and economical project⁴. According to this, each urban culture developed its own conceptual urban ordering framework and a recognizable experience of space based on durable semiotic schemes of relations among buildings, public spaces and uses/rituals⁵. During the 20th century, the design of new cities for Italian reclamations, the evolutionary clockwork of Chandigarh by Le Corbusier or the sensible project for Casablanca by Ecochard provided powerful examples of an architectural approach to the urban project able to express at a new scale the role of collective spaces engaging with change and evolution⁶. But in the last decades more and more difficult has become translating a clear political vision in a recognizable project for the city, hence in a meaningful experience of its public-spaces, or public-realm. An urban relativism connected to social inequalities, migrations, climate-change and a new cosmopolitanism has determined a progressive fragmentation and segregation of space, with a consequent desperate search for new ordering principles⁷. Where a general order collapsed, multiple particular orders popped-up claiming their spaces, rights and walls. Individualism and the capsularization of eschatological narratives deconstructed the urban form in an apparent lack of sense, a disordered generic agglomeration. The failure of the welfare state to address the emerging metropolitan scale, with its new cosmopolitan citizenship, translated in the crisis of the established order, with all his tools, and in the start of what has been called the informal age. The concept of informality began to be discussed when urban phenomena which were impossible to be classified and ordered according to established frameworks spread. Most of the rapid urbanization represented by the data released by the United Nations in the last decade is informal: informality is the way contemporary city are growing, spatially and socio-economically. A first attempt to define urban informality was presented in 1972 by the International Labor Organization, in a report regarding the informal sector in Nairobi. But since then “the informal and formal systems are increasingly connected and interdependent”, more then separated⁸. In some cases informal economies became a relevant and essential part of the urban economic structure, with inevitable spatial consequences. Urban informality is the physical evidence of invisible patterns standing out-of-the-law, out-of-the-model. It's a condition spreading all over the world, with different forms according to the geographical and economical context, but everywhere witnessing creative attempts to fill the gaps left by the domain of public and the egotism of capitalism.

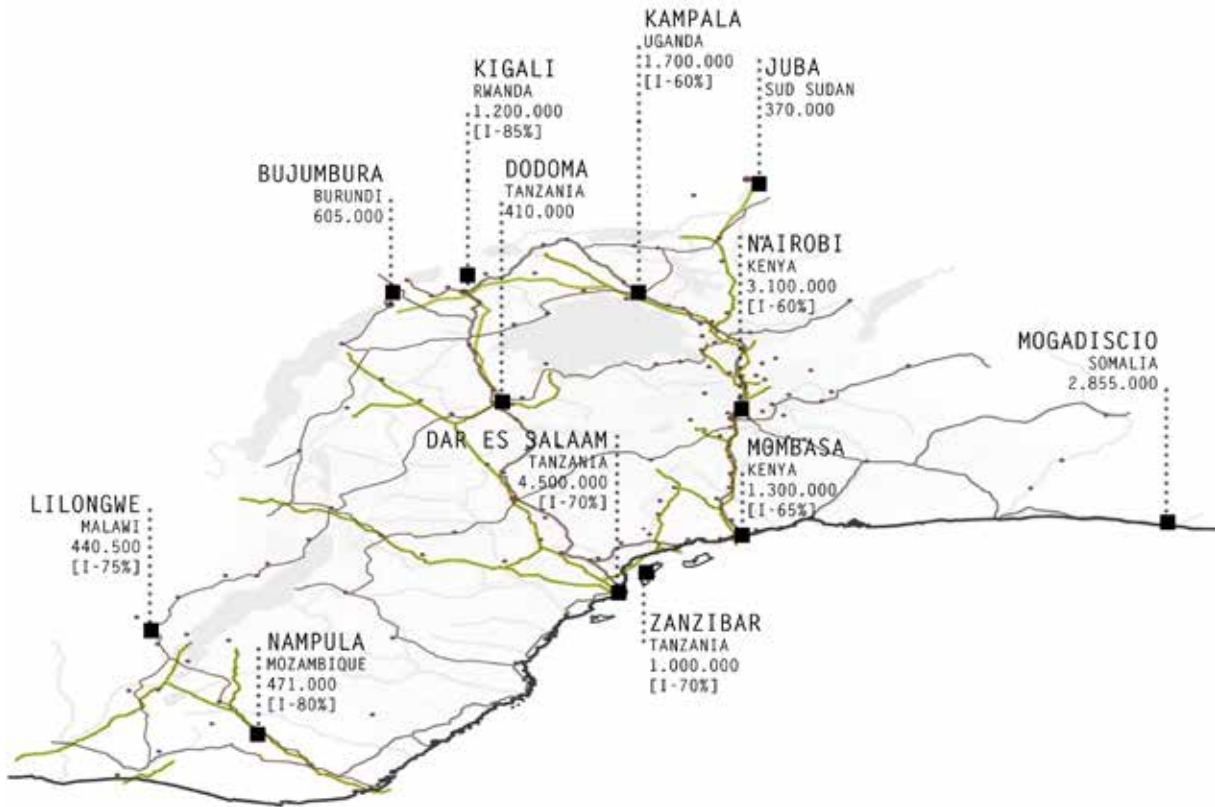


FIGURE 1 East African Metropolises: estimated population and informal urbanization rate (UNHABITAT and World Bank data, 2015).

The crisis of the public/private binary is happening all over the world, both in developed and developing countries, giving space to the rise of ‘commons’⁹. The interlacing of public, private and commons introduces new orders with differentiated publicness: porous patterns of negotiation for new metropolitan lifestyles beyond both the models of welfare state and late-capitalism (with their global standardization attitude). For this reason, contemporary cities with highest informality rates are the most prominent laboratories to experiment alternative forms of socio-ecological organization through alternative re-combinations of public/common space patterns informing the city¹⁰. In this perspective East-African metropolises in their historical evolution can be seen as extraordinary laboratories for the urban future.

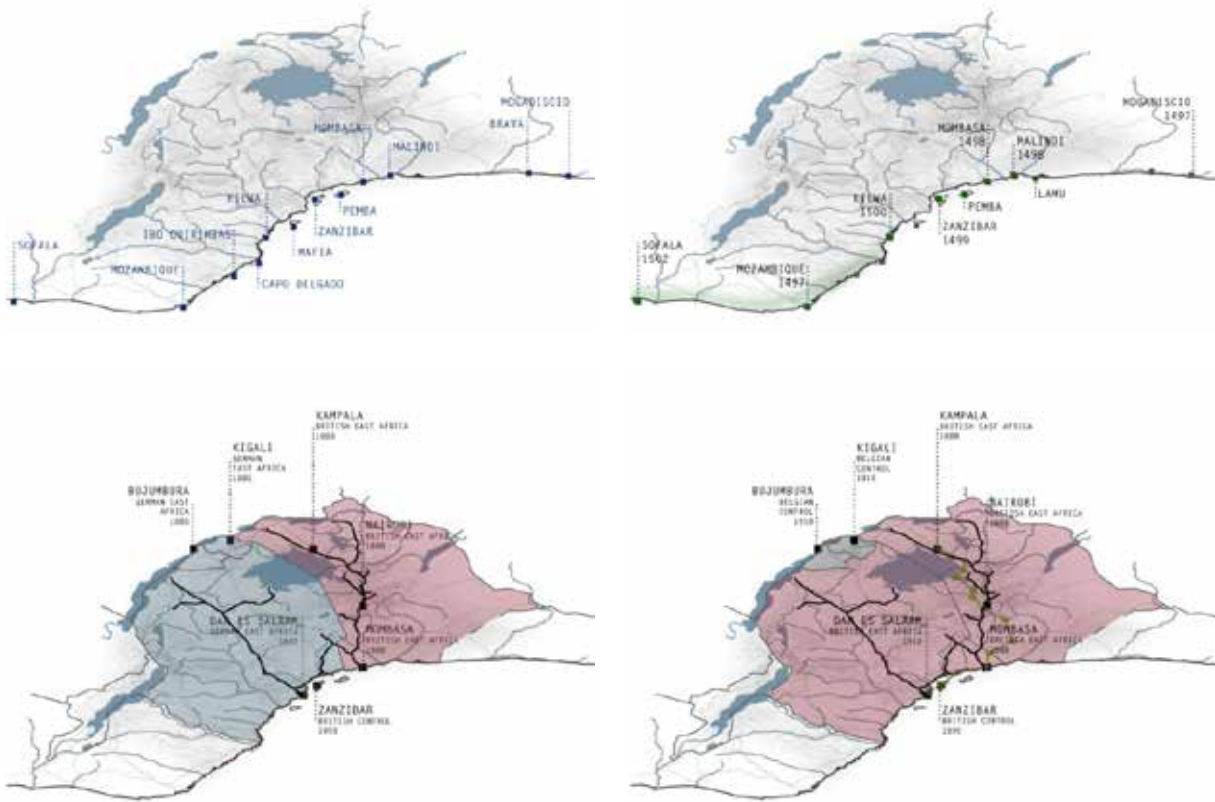


FIGURE 2 Evolving geopolitical scenario and urban settlements: Kilwa Sultanate Settlements, XV Century (upper left); Portuguese Trade-posts 1497-1502 (upper right); Colonial powers before (lower left) and after (lower right) the first World War.

EAST AFRICAN METROPOLISES AS URBAN LABORATORIES FOR THE FUTURE

In this complex scenario East-Africa is one of the less urbanized regions in the world, but living one of the fastest urbanization. Its urban history has roots in the cosmopolitan Swahili culture and common experiences related to British colonialism and the East African Community. During the 20th century it has been a great laboratory regarding the effort of ordering growth according to very different political visions and social projects: almost everything has been tested in planning and urban design, with a relevant gradient of determinism in the designing efforts, from total to minimal. The East-Africans are excellent samples of contemporary metropolises facing the unstoppable proliferation of informal growth due to uncontrolled migrations and unsustainable development. Dar es Salaam, Nairobi, Mombasa, Kampala, Kigali and the metropolitan archipelago of Zanzibar have already passed the quota of a million inhabitants and the biggest cities are running million after million, with more than half of this growth occurring informally¹¹. From the beginning of their urban history all these cities have faced the issue of hosting different communities with different lifestyles, symbols, rituals, fears and public spaces. Their urban history is a telling overview on the relevance of urban architecture in determining their future. Which narrative for the contemporary East-African metropolis? The conflict emerging in the cradle of globalized splintered urbanism¹² is pushing slum urbanism to experiment a new kind of inclusive urbanism with low-carbon features responding to the present need for a strong socio-ecological resilience. This hybridizing potential stays in the DNA of East-African cities since the beginning of their history.

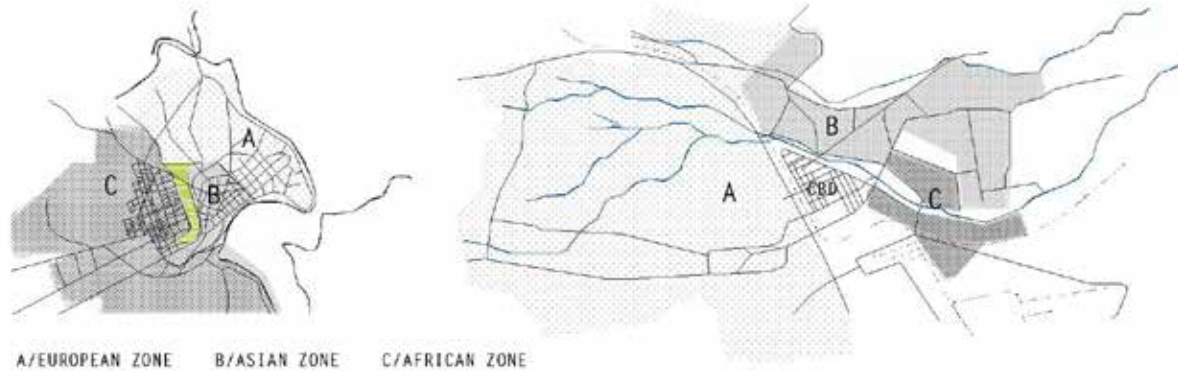


FIGURE 3 Segregative urbanism and geography. On the left, Dar es Salaam settling plan, 1918: three neighbourhoods for three lifestyles.¹⁵ On the right, Nairobi settling plan, W.Jamson and E.Dutton, 1927: African people could only settle informally in squatter settlements.¹⁶

THE ORIGINS: SWAHILI MULTICULTURAL URBANISM

The origins of the metropolitan character of East-African urbanism date back in 15th century. Swahili urbanism, merging Persian, Bantu, Arab, Indian cultures and European interferences, flourished on the African coast facing the Indian Ocean thanks to fertile commercial exchanges. Swahili culture has its first roots in the establishment of the Kilwa Sultanate, that developed a distinctive metropolitan maritime network on the African coastline facing the Indian Ocean, from Mogadiscio to Mozambique. Portuguese trade-posts overlapped to this system and the rich commercial relations at the end of the 17th century moved the interests of the Omani Sultanate, lately transformed in the powerful Zanzibar Sultanate. Specific urban characters connoted these port-cities, built on hybrid spatial frameworks mixing the Bantu value of void space as collective and symbolic space and the Arab structure of commercial armatures as backbone for incremental urbanization. As Stephanie Wynne-Jones points out, Swahili towns were both planned and unplanned; cities as processes, not products.¹³ They were dual cities built in stone or wood/mud on a system of porous relational spaces: civic armatures organizing housing as a pure element of consumption.

SPLINTERED SETTLING COLONIAL URBANISM

Only at the end of 19th century, after the scramble for Africa at the Berlin Conference, the European colonizers started to settle permanently on the territories they were exploiting in this area. Perceiving them as a tabula rasa, the colonial powers began to build infrastructures to allow their planned extractive economies: railways were the penetration armatures that led to the settlement of new cities far from the ocean (i.e. Nairobi) and connected with the existing powerful harbours. Europeans, with their desire to live in the most similar way to their homeland, as well as for the fear of a hostile environment, started to design their new life in euro-fashioned neighbourhoods, separated from the existing settlements. Nobody cared about the progressive growth of what we would call now informal settlements, but that in fact was the real city, growing faster and faster due to migrations from the countryside driven by new economic opportunities. The settling plan for Dar es Salaam is a clear example of this splintered urbanism, allowing (before than forcing) everyone to live the way they were used to, without any infrastructural democracy¹⁴. The only designed open-space to order the urban form at the metropolitan scale was the sanitary green-belt separating the different communities, while each neighbourhood continued to develop its own relational patterns. This treble plan for Dar is among the first problematic evidences of the future African contemporary metropolises, multicultural archipelagos hosting different conflicting communities claiming for their rights.

POST-WAR COLONIAL URBANISM

Something changed after the Second World War when most of the region fell under the British control. The political will regarding East African British colonies moved from exploitation to inclusion. This clearly emerges from the “Commonwealth Development and Welfare program for the colonies” (1944) and the optimistic “Colonial Development and Welfare Scheme 1947-57”. Colonial planning embraced the modern Universalist belief in the possibility of blending development and changelessness, western universal models and anthropologically oriented interpretations of the African communities¹⁷. Importing British town planning, based on garden city models, matched perfectly with the idea of managing growth through the multiplication and scaling of local models, at the same time building effective systems of surveillance and dominance. Village-hubs were designed as neighbourhood units, linked by mobility armatures with the aim of intermediating between tradition and new locally modern lifestyles. One of the main tools to foster this transition was the introduction of gathering spaces at different scales. Various strategies were applied regarding basic service provision, often left to self-organization, in strikingly opposition with the sites-and-services strategy that will become popular soon after. Maxwell Fry started this experimental approach in the 40s in Western Africa, with results spreading through the continent and persisting after the Independencies¹⁸. In East Africa Ernst May’s plan for Kampala (1947) designed settlements for low and middle income Africans and Asians, part of a complex geographical system of morpho-typological segregation¹⁹. Infrastructures were asked to organize functional and racial zoning. In the same period, even Dar es Salaam and Nairobi were endowed with modernist masterplans; they were less sophisticated, but exactly as all the others of this period without any proper financial coverage. The colonial modernist experiments ended up in the marginalization of local population and continuous spread of informal settlements. The native inhabitants of these cities were intended as “en route towards modern urban living”²⁰, whilst, left at the periphery of the dreamt development, they simply carried on to build their own alternative informal cities in a meanwhile that started to last for decades.

INDEPENDENCY URBANISM: THE FAITH IN MODERNISM

The Western promises of Modernism, granting for an identitarian, inclusive and multicultural urbanism, deeply conditioned national building processes, even if in different ways from nation to nation. Western Africa and Ghana, in particular, served again as a model. Following Fry’s studies, Doxiadis applied in Tema his Ekistics theory as comprehensive methodology to plan and master all scales: everything was designed and engineered, comprehensively and hierarchically, universally applicable and site-specific. Super-grid multi-scalar patterns bound landscape and transport flows interconnecting village-like units in an ever-expandable archipelago. The units were characterized by a pedestrian network of pathways incorporating squares of different sizes forming a system of open, car-free spaces that, in some cases, vibrantly survive today²¹. In East-Africa, with the same approach, all the new governments, trying to affirm their new identities and to take advantage of their different cold-war international influences, started to produce new plans for their main cities at the end of the 60s.

Among the most interesting experiments the Nyerere socialist vision produced a comprehensive plan for Dar es Salaam, but more significantly inspired the foundation plan and project for the new capital of Dodoma²², coming in 1974 and closing this age. The ‘ujamaa’ (familiness) vision for a rural communitarian economic development is the base for the masterplanning effort that Canadian PPA (Project Planning Associates) underwent to design the new Tanzanian capital. Social and physical guidelines aimed to control the realization and management of an Africanised garden city: archipelago of villages with a limited cooperative population blended with landscape and organized by an efficient public transportation and slow mobility network around the very public core of the nation, the National Capital Center. Dodoma is a political manifesto before trying to be a real city: a socialist experiment of glocal modernism, in explicit opposition to the capitalist/colonialist modernism. It’s also the story of a failure.

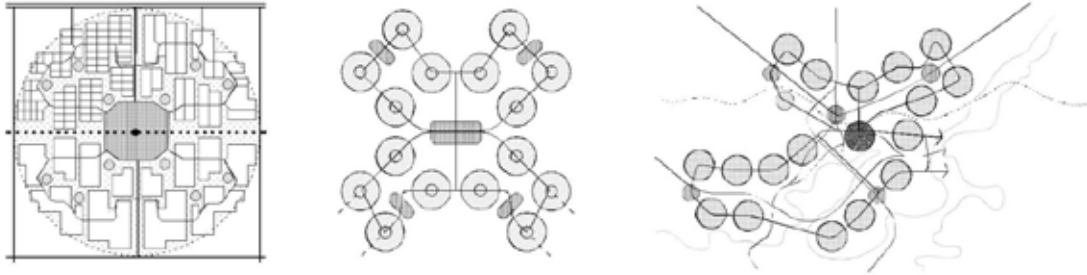


FIGURE 4 Dodoma Masterplan by Project Planning Associates Limited, Toronto, Canada, 1974. From left to right: prototype community, diagrammatic urban system and urban concept.²³



FIGURE 5 The evolution of neighbourhood-units in Zanzibar planning history reveals the progressive disappearing of public spaces in designing the city. From left to right: German Plan, Sholz/GDR 1968 (unrealized); Chinese Plan, Chang Keguang, 1982; Tunguu Neighborhood Unit, 1996.²⁶

Everything about these plans seemed perfect, but most of them served only as a façade. The newly urbanized and poor citizens couldn't afford a car or public transportation to cover the unprecedented metropolitan distances and in reality even the government couldn't afford the forecasted public investments, with the results of an increased polarization and strengthening of segregative urbanism. There was no real understanding of the new scale of the growing and growing informal metropolis, impossible to be completely designed due to unsustainable costs and governance complexity. It was still considered an exception, out of the order, whilst it was clearly the real matter of the city, with its rich relational environment.

FROM URBANISM TO URBANIZATION

The 1973 oil crisis and its following consequences stopped any dream of easy growth, fostering the rise of new stakeholders in the economical power of urban development in the form of multilateral programs by the United Nations, the International Monetary Fund and the World Bank. From great visions to basic urgencies, the focus moved to the need of rapidly settling the urbanising population and improving its living conditions. The roadmap started to be allocating the available resources to build essential infrastructures, letting people providing for their houses. It's the sites-and-services approach, coming from Turner's sensible studies²⁴, but in facts generating an age of urbanization without urbanity²⁵. The failure of the public project of the city caused the disappearance in the political toolbox of public-space design as device to build citizenship and to foster feeling of belonging. In a continuous run after the city reproducing itself, the conceptual model is still the neighbourhood unit as megablock composing the city. But no attention in those projects is generally given to the nodes and interfaces connecting infrastructures, landscape and city fabric, producing conflicts and wasting important occasions to positively redistribute the effects of the connected investments.

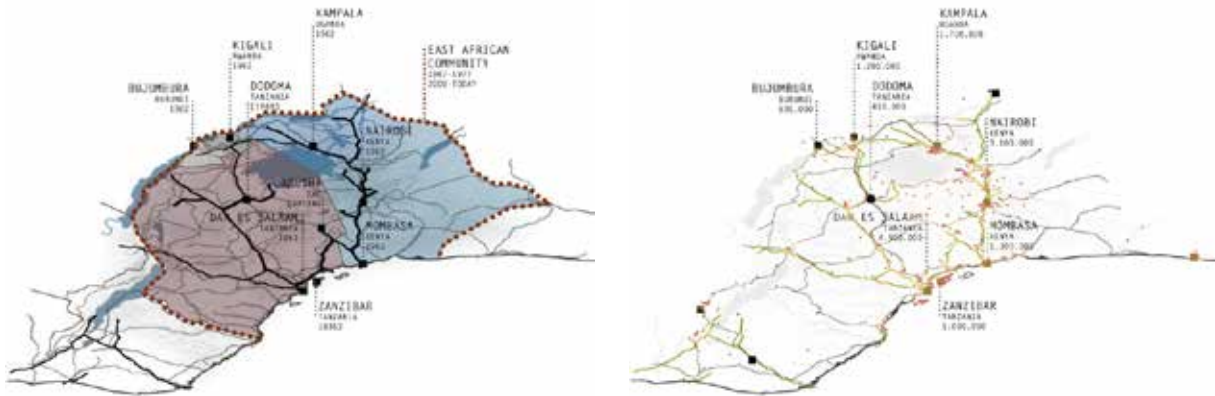


FIGURE 6 New national states and East African Community (left) and the Swahili meta-city revealed through Twitter data in 2015 (elaboration by the author using Mosquito for Grasshopper) (right).

From this moment the actions to face urban growth take two parallel directions with different models and scales of interventions. One consisted in local initiatives at the neighbourhood scale with episodic experimental programs. Starting in the 70s and covering the following decades with alternate success, various projects at the local level promoted the upgrading of selected informal settlement and the provision of new serviced plot of lands, but with important problems in terms of scale, administration and cost recovery²⁷. Started as governmental programs with the help of multilaterals (World Bank) these projects evolved finding the interest of philanthropic organizations, NGOs, academic institutions and directly involving the local communities. Despite in some case the efforts produced relevant results, the effects remained local without effective impacts on the systemic urban relations and unable to become a reproducible model. The other direction took shape as the realization of great infrastructural projects financed by multilaterals - mostly public transportation - and rarely integrated in a comprehensive vision for the city. The recent project for the BRT (Bus Rapid Transit Infrastructure) in Dar es Salaam could be recalled as example²⁸. Both the lines of action, at different scales, relies on infrastructures more than on spatial quality, they urbanize without enhancing urbanity, stating a complete lack of political urban vision and leaving again to exogenous stakeholders the initiative to decide on priorities, without any synergy.

MASTERPLANS REVIVAL, SYNERGIC UPGRADING AND OPENINGS TO A NEW AWARENESS

Neo-colonial globalization is occurring in this situation in which modern utopias lost reliability and local spatial habits are often lost or conflicting. On this cultural tabula rasa, since the beginning of 21st century the political sphere is fostering a revival of total masterplanning. In three years, from 2012 to 2014, Nairobi, Mombasa, Dar es Salaam, Dodoma, Zanzibar and Kigali have announced the drafting of a new plan. Most of them promote western-style new-foundations and re-placements according to old-models, unconcerned of the real character of the urban phenomenon. Parallel attempts, blending top-down and bottom-up initiatives, cope with a formalizing effort based on densification according to existing open-space patterns; a potential way to trigger economies of scale capable to make service provisions sustainable. This seems a much more promising approach, even if in need of an appropriate synergic vision at a bigger scale.

	NAIROBI	MOMBASA	DAR	DODOMA	ZANZIBAR	KAMPALA	KIGALI
SETTLING COLONIAL URBANISM	1927		1918		1923		
POST-WAR COLONIAL URBANISM	1948		1948		1958	1947	
INDIPENDENCY URBANISM	1973	1963	1968	1974	1968	1963	
URBANISM TO URBANIZATION		1976	1979		1982		
NEW PLANS	2014	2014	2012	2013	2014		2013

FIGURE 7 East African Urban History: a proposed periodization of planning tools (compiled by author from multiple sources).

These sensible initiatives can rely on a wider awareness of the informal phenomenon thanks to ICT tools. The digital revolution is producing a relevant shift in understanding and coping with African cities. Participatory GIS based mapping experiments, together with social-networks data elaborations, are offering knowledge on the real consistency of East-African rapid urbanization and its informal urbanity, revealing qualitative, together with the usual quantitative, information.²⁹ Experiments in Nairobi (Kibera) and Dar es Salaam (Tandale), among others, revealed ICT mapping potentials, as powerful tool to reinforce the awareness of local cultures and to set synergies between formal and informal socio-metabolic flows. Mapping and interacting with localized cultural patterns and their space-rooting could set the conditions for governance and design processes to consciously deal with territorial intelligence.³⁰

LEARNING FROM HISTORY: SCALE, TIME, CONTEXT

East-African urban history in the last century is a peculiar mirroring of Western models in a different context. Over-designed as well as under-designed urban projects in East-Africa, seen through the lens of cultural distance, reveals some universal as well as specific critical issues. Everything seems to have been tested to deal with rapid urbanization: expansion or new foundations; densification or upgrading. In each of the attempts, various complementary criticalities in terms of timing, financing and management emerged. Re-producing exogenous models without caring about the ecology of a territory in its environmental, social, cultural complexity in many cases risked to destroy places. These experiences clearly reveal some unavoidable conflicts connected to the spread of global technological standards, layering these globalized models on the existent physical and cultural topographies. Conflicts don't happen only in space, but more problematically in time. Models cannot be intended as ready made projects, they should serve to orient and order progressive specifications and evolutions of the city fabric moved by deeply contextualized rules. As demonstrated by the experiments of urbanization at the end of the 20th century, the switch of the governmental role from housing provider to housing enabler³¹ set an important milestone in recognizing the relevance of infrastructures as public good. The matter is which kind of public good infrastructure can embody and how to design the process that infrastructure can trigger. Some of the failures of the past stress the need of designing time together with space, which is not about phasing by parts, but designing and budding processes in space, through robust civic patterns. All this is about the need of a project for the city. Going back to Alberti, and embracing some of the recent theories related to the concept of resilience, we should investigate an idea of order based on vivid relational rules more than on utopian modeling³². But the unprecedented scale of the urbanization phenomenon requires looking for new paradigms: the scale is metropolitan, the speed implies metabolic adaptive strategies, the scarcity of resources imposes to hybridize economical/ecological patterns with in/formality gradient.

CONCLUSION. ORDERING THE METROPOLITAN SCALE: TOWARDS A NEW PARADIGM

The contemporary transcultural narrations regarding the city have to do mainly with the concepts of hyper-accessibility to spaces, goods and information and, on the other hand, to environmental sustainability and food security. Both the accessibility and the environmentalist concepts suggest the development of inter-scalar, multi-formal, multi-temporal patterns matching continuous globalized and discontinuous and porous contextualized systems: a new dimension of the idea of public ordering the metropolitan scale and able to cope with uncertainty, change, informality. In this perspective Ortiz³³ proposes a modelling methodology acting through a metropolitan matrix, geographically determined, that interlaces and prioritizes a regular grid of grey-armatures for the best accessibility and a geographical network of green armatures working as eco-infrastructures. It's a mental map able to order growth priorities in relation to specific local geographies and economies. The metropolitan paradigm introduces a different geography of centralities marking the nodes of intersection among grey and green infrastructures, interfaces between continuous regional systems and the city fabric, rather formal or informal. Metropolitan architecture³⁴ is a concept currently investigated by the Measure and Scale of the Contemporary City Research Lab at Politecnico di Milano. It explores the morphological and typological consistency of the hinge-points pointed out by Ortiz's metropolitan paradigm as robust founding or acupuncture urban device to trigger controlled formalization processes and in/formality gradient patterns, facilitating public processes of occupation, appropriation and care.

Recent East-African experiences reveals emerging in/formality gradient patterns, especially in service provision. It's a relevant trend to investigate the future of urban socio-ecological patterns. If we go back to Alberti, as interpreted by Choay³⁵, part of the composition effort in dealing with the project of the city relies in the free introduction of citizens' demands in the fixed urban matrix to deliberately produce disorder: a positive disorder able to generate order. The deliberate triggering of chaotic dynamics could be dangerous for the system stability and urban architecture has the role of fostering and directing processes in time, stabilizing them in space. It has the duty to set robust and durable stages to include and domesticate informal dynamics in the city discourse through recombinant strategies; formal structures for informal patterns³⁶. Following the Ecochard approach: urbanism (public spaces and nodes) in first place, as permanent ordering device representing civic robustness; fabric construction afterwards.³⁷ The interscalar pattern of public goods built by ecological and economical infrastructure could work for social and environmental resilience. Learning from history, Swahili cosmopolitan rizhomatic patterns of civic robustness, in the contemporary metropolitan interlace of scale, appear as a promising spatial device to investigate for contributing to the discussion on the future of the East-African Metropolises.

Notes on contributor

Alessandro Frigerio, architect and urban designer, has a double degree in architecture at Politecnico di Milano and Politecnico di Torino and a diploma in management of innovation by Alta Scuola Politecnica. He is currently a PhD student at Politecnico di Milano, Department of Architecture and Urban Studies, with a research on East-African urbanism. He is part of the Measure and Scale of Contemporary City Research Lab in the same department, participating to teaching and research activities on sustainable urban development. In 2013 he co-founded UP! Design and research Lab in Milano.

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Image Sources

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