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NAVIGATING THE “BLUE HOUR” – THE MEGATRENDS CONCEPT AND REFLECTIONS ON IT

Understanding Africa's urban food future through a reflection on key emerging trends

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Opinion Briefs is a thought-provoking series that expands on the findings of the Urban Food Futures' scoping report, *Pathways to Transform Urban Food Systems* (Paganini & Weigelt, 2023). Authored by the team and partners of Urban Food Futures, this collection serves as a stepping stone to enrich and deepen our work. With a collective vision to implement the pathways outlined in the scoping report, the series presents fresh insights, in-depth analysis, and innovative perspectives. These thoughtfully crafted briefs aim to challenge conventional notions and explore new horizons in the realm of urban food systems transformation to ignite meaningful discussions and catalyse tangible actions.

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EXECUTIVE SUMMARY

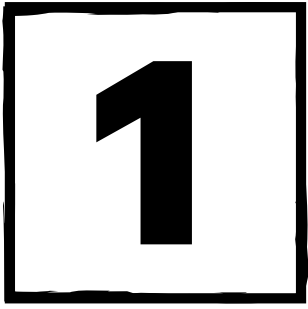
The ongoing demographic shift toward urbanisation in Africa is a key megatrend, with the majority of the population expected to reside in urban areas within the next few decades. Changes in the food system, where a growing proportion of food is acquired through retail channels rather than self-production, represent another significant megatrend with far-reaching implications for urban food security. Infrastructural investments, particularly in the context of rapid urban expansion, constitute a further component of the urbanisation megatrend that will shape the physical and economic landscapes of African cities. Africa's youthful demographic is yet another megatrend, presenting both opportunities and challenges as the continent's young population plays a central role in determining its future.

The concept of pace layers helps us distinguish between trends and megatrends, underscoring the importance of understanding which factors have the power to transform society and our urban food systems fundamentally. We deploy the notion of pace layers for their transformative power and to ameliorate the risks

associated with focusing solely on immediate crises, occluding the deep and more prolonged megatrends that drive substantial societal change. We argue for discourse that sees urban food system transformation as intersecting with multiple megatrends, requiring active intervention.

In the context of African cities, we explore ongoing trends and transitions exacerbated by polycrises. The importance of shifting from crisis-centred thinking to considering societal trajectories must be underscored. Historical analysis and trend research highlight the significance of understanding past processes to contextualise current trends and reveal that society is in a transitional phase between regimes, necessitating anticipatory work.

There is a need to comprehensively engage with societal trends and transitions to address polycrises effectively. Africa's future hinges upon informed choices that consider the intricate interplay of factors shaping the future, particularly within Africa's urban food systems.



INTRODUCTION

The global challenges of climate change, biodiversity loss, economic meltdown, resource scarcity, and more were described in 1993 as a “polycrisis” by Morin and Kern (1993). This term was used to describe multiple intersecting and mutually re-enforcing crises faced by contemporary society (Swilling & Annecke, 2012). As crises have become more frequent and extreme and garnered greater media and public attention, the term polycrisis has been used with far greater frequency across academic (see van Breda, 2022), global governance (see Walsh, 2023), and civic (see Food Dialogues, 2023) platforms. This term, the focus it brings (specifically, the interconnected nature of crises), and the subsequent consequences is essential in highlighting that addressing contemporary global challenges

requires engaging in multiple issues at the same time; a singular focus will not suffice. The term polycrisis has the potential to amplify our understanding of the issues and raise awareness of what is at stake. But is awareness enough?

How does society react in the context of a set of global issues, often driven by actors outside the scope of most, such as the oil and gas industry, and governed by agreements and policy frameworks at scales way beyond the reach of organisations? Action is needed and action can take place at multiple scales.

The Urban Food Futures’ Project focuses specifically on communities who have been marginalised by both the global food system and the wider global economic systems. This marginalisation has extended from the global to the national and further to the urban scale. Agency and voice and the ability to interrupt these intersecting global processes is a significant challenge. The Urban Food Futures’ work seeks to understand the essential work that needs to be done to ensure sustainable and equitable development for all.

**ADDRESSING CONTEMPORARY
GLOBAL CHALLENGES REQUIRES
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AT THE SAME TIME; A SINGULAR
FOCUS WILL NOT SUFFICE.**

Given the complexity of the polycrisis, engagement is often confounded. Where does one start? Where can organisations change? What should “I” do? How can we make a difference? These questions are frequently asked by community groups and individuals. Action is essential, but given the complexity of the challenges, is action always appropriate? Can action be more targeted and focused, potentially amplifying the desired outcomes?

This report reflects on these questions and deliberately attempts to engage

three different positions. It reflects on history, past actions, and events, while at the same time attempting to anticipate some of the potential challenges that lay ahead and some of the opportunities and threats associated with this.

There is no doubt that there are multiple trends that can be tracked and engaged. To avoid the pitfall of attempting to capture everything while saying very little, the report applies a deliberate approach to engage what is framed as megatrends.



● **Figure 1** Evening in Kisumu, Kenya - Urbanization (and importance of intermediary towns).
Source: Consuming Urban Poverty

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ENGAGING TRENDS, TRANSITIONS, AND HISTORY

Africa's transformation is being informed, disrupted, and made even more complex by the polycrisis and global changes and shifts and constant recalibrations are taking place across multiple domains. Africa is facing multiple converging and mutually re-enforcing transitions, all driven by and contingent on a series of major global trends. These changes include a demographic shift to a largely urban continent, changes in the food system, where the bulk of food is accessed via retail as opposed to self-produced, infrastructure investments, and an increasingly youthful demographic. These changes all combine in ways that are not yet fully understood. Importantly, when combined, these changes mean that what takes place in African cities, and their food systems, in the next 15 – 20 years will determine the futures of the continent for the next century (Pieterse et al, 2018).

A focus on trends offers a different approach to the important work of researching how change is being acted on, how society is engaging with this change, and what is needed to

transition to a just future. We use the notion of a trend for various reasons. First, work needs to move beyond a focus on crises, even polycrisis. A trend is a general direction in which society is moving, while a crisis is a time of intense difficulty and danger. We do not dismiss the fact that Africa is facing multiple crises. Crises and issues of immediate danger most certainly require action but also needed is a focus on societies' trajectories that reveal a sense of direction or a transition from reaction to projection. These transitions are multiple, varied, and contextual. Avoiding path-dependency-causing processes is a further essential activity and one that requires focus. Engaging this directionality in the context of converging and mutually intersecting trends is key to multiple actions needed when planning, governing, and curating an African urban future. The focus on trends as opposed to crises asks that while we need to react to crises, we need to also take a longer-term view, one that seeks to use trends to offer a sense of directionality, enabling strategic longer-term actions. Trends also enable a wider approach, one that engages multiple possible futures.

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Proactive engagements in African food and urban systems need to engage both the issues of crisis (and specifically the polycrisis) as well as responding to and engaging the immediacy and converging and mutually re-enforcing nature of the polycrisis. At the same time, a second approach is needed: one that adopts a more projective position and seeks to be more anticipatory. This is the work that focuses on trends and trend cycles. Given that Africa's future is urban, this anticipatory work enables a perspective on the continent's future.

Secondly, trends historicise issues. No focus on an emerging trend can offer a clear articulation of the trajectory of a specific issue unless the origins, earlier pathways, and history are fully considered. Engaging historical processes and trends and how these are framed assists in better contextualising the trajectory. While all projection has risks and uncertainty, anticipatory trajectories are more robust (and less reactionary) when the arcs associated with a specific issue are carefully considered.

For this reason, we deepen our engagement to consider past trends analysis, including Perez's work (2004) on long-range economic cycles, which draws on Kondratiev and Schumpeter (see *for example* Giersch, 1984 and Tinbergen, 1981) and, given the nature of the current food system, we draw on the foundational work on food regimes by Friedmann (1993) and McMichael's later (2009) expansion of this. Friedmann frames a regime as a "rule-governed structure of production and consumption of food on a world scale" (1993, p. 31). This remains an effective way to understand changes in food system rules and structures. As per the framing of the food regime, society is in a space of transition, having moved from the state-led regime through the corporate-led regime (*per* McMichael, 2009). When these historical works are overlaid with Africa's urban transition, important questions emerge.

This engagement suggests that society is currently in a moment of governance, economic, ecological, and ideological transition. We are living in a period between so-called regimes: an interregnum or *l'heure bleue*, where the

struggles of the past recede and the possibility of the transition to a new state of being emerges.

To enable a robust assessment of the requirements to navigate the interregnum, this work applies an analytical frame to support the differentiation between trend and crisis, between where attention goes and where power is vested. To do this, we draw on Brand's (2018) framing of "pace layers" to offer a sense of where responses to our engagement in key trends need to focus to best engage the transitions. The use of pace layers allows for differentiation between trends and megatrends. While this is open to discussion, a trend is generally a change that shifts issues; it proposes, absorbs shocks, and gets most of the attention. A trend is often fleeting and doesn't hold much power to drive change. On the other hand, a megatrend integrates change; it has consistency, integrates shocks, and has all the power. These differentiations are described in further detail below. However, a key determinant is to see a megatrend as a process which holds considerable, arguably disproportionate, power to fundamentally change society.

Urban food systems change sits at the intersection between converging and mutually re-enforcing megatrends.

Transformation to a more just and wellness-enhancing urban food system, a plural process embracing multiple relationalities, is only possible through active intervention at the intersection between the historicisation of existing political economy issues and the anticipatory work charting the megatrend trajectories. To do this, this work invokes not just work on trends but also future studies and their approaches. This work is deliberately reflective; it avoids offering specific pathways, solutions, and needed actions. Navigating the current moment between multiple regimes, the interregnum, requires multiple knowledges, varied positions, and diverse relationalities. This work seeks to start this conversation.

Scale is important, but at the same time, complicates things. While understanding megatrends is essential and offers significant utility for the urban food research project, the focus itself asks that we consider not just the megatrends, but also the relationship between these megatrends and context, specifically the urban contexts where we operate and the multiple intersecting relationalities. Making a general comment about urbanisation, as a key megatrend in Africa, is useful and it heightens focus on the central role that urbanisation is playing across the continent, but acting on this in the study sites is a very different matter. For example, when three different cities are considered, for example, Cape Town, Nairobi, and Ouagadougou, the urbanisation trajectory and profile in East Africa is very different to that in West Africa, and even more different to Southern Africa.

Understanding megatrends allows for a greater understanding of issues and how they predicate change.

A KEY DETERMINANT IS TO SEE A MEGATREND AS A PROCESS WHICH HOLDS CONSIDERABLE, ARGUABLY DISPROPORTIONATE, POWER TO FUNDAMENTALLY CHANGE SOCIETY.

MEGATRENDS AND ENGAGING THE FUTURE

The complexity of this particular historical period seems to require the development of skills which enable people to orient themselves within increasingly uncertain contexts pestered by incessant and accelerating changes. As a consequence, the information of the past and the experience developed hitherto are no longer able to show the way. Without implying that that does mean historical precedent and example are devoid of value... people need to broaden the information base on which they make decisions. But where can they find new information? If the past is no longer enough, what remains is looking to the future.

Roberto Poli (2021, p. 2)

Megatrends generally build over time, but are evident at this time. Through assessing these megatrends, we are able to observe and engage in the historical formation of a trend, but at the same time, observe its trajectory, the deep present or “thick present” (Poli, 2021). “This ‘thick’ present comprises several levels of realities that provide building materials for the creation of the future, from physical and biological

components to psychological ones to social systems and historical practices” (Poli, 2021, p. 7). Megatrends embody this “thick present”. It is essential that the clues and insights offered by the “thick present” are used effectively to chart future actions. Charting future actions enables urban food system actors to better conceptualise then operationalise responses.

In the current interregnum, much like the 1930s, much is in flux; the future is unclear. A recent tool that attempted to curate a process and shine light on the “thick present” was articulated in the *Corderie dell’Arsenale* hall at the Venice Architecture Biennale in 2023. In asking questions about design and Africa’s future, the curator, African architect, Lesley Lokko, invited visitors to reflect on the notion of the blue hour, the time after sunset and before night: “A moment between dream and awakening ... a moment of hope.” (Berlanda, 2023)

What does this mean for the current interregnum or blue hour in which society, and specifically Africa, finds itself? Filtering through the complexity

and noise of current trends is a challenge. Here, other framings assist in offering some strategic clarity as to which trends might be deemed megatrends. To do this, we use pace layers to amplify a specific trend to the status of megatrend. This amplification is subjective, but our selection is informed by the known impact of a specific trend on both the urban and the food systems.

PACE LAYERS AND MEMORY WITHIN CHANGE, CRISES, AND MEGATRENDS

When considering the interactions arising from changes across multiple spheres (food regime change, socio-technical change, and African



● **Figure 2** Cape Town is celebrating Ramadan.
Source: Aqeela Singlee, 2023

geopolitical transformation), Brand's pace layers (2018) provide a useful framework to prioritise megatrends and offer a sense of where focus is needed. Pace layers are a way to disclose how complex systems operate at different paces (Brand, 2018). When seeking to engage in and describe specific megatrends we use the pace layers concept to select the specific trends that we assess as trends that fundamentally alter nature, the modes of governance, and the culture of the continent, and in so doing, drive global change. These three factors cut across and include many issues that we consider crises; however, unlike crises which play out so quickly that they yield little power in terms of very long-term impacts, megatrends create fundamental and

significant changes. A categorical overview of pace layers is provided in Table 1. In some of the original work by Brand on pace layers (2018), art was included with fashion. Some art may be temporary but other art can be far more powerful and can shift aspects. For this reason, in our framing, fashion is used but art is removed.

The interregnum currently underway is reflected in a changing economic cycle, an as-yet-unknown transition in food regimes, and global governance transitions with both negative and positive change. It is essential that key megatrends become the centre of focus; that this, a focus that actively seeks the "thick present" in this transitory moment.

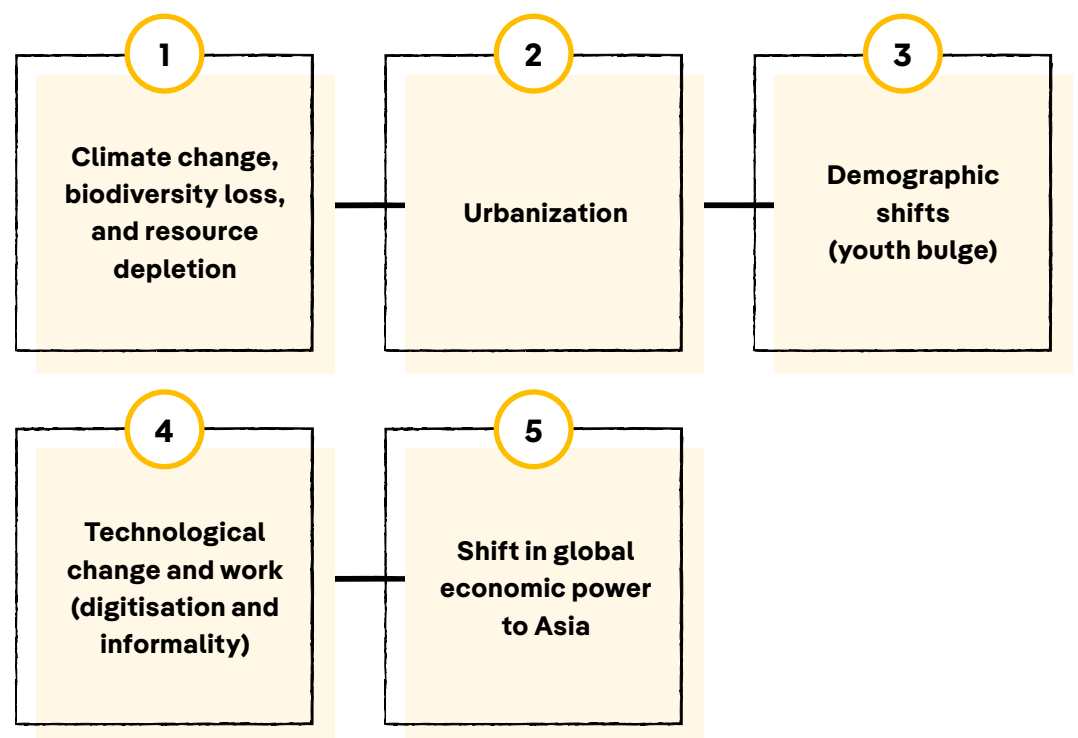
Table 1. Adapted from Stewart Brand's Six Pace Layer levels (Source: Brand, 2018)

Pace layer	Characteristic	Scale	Differentiating aspect
Fashion	Quick, irrelevant to global needs, engaging, self-preoccupied and fickle, drives energy for commerce though.	Years	Fast Learns
Commerce	Exploits and absorbs shocks, passes velocity and wealth onto infrastructure. A key factor in the nature of commerce is its connection to or distance from governance.	Decades	Proposes Absorbs shocks Innovation sites
Infrastructure	Education, science, medicine, transportation, communication, etc. Must be supported and enabled by governance and culture – payback period is long.	Decades/ Centuries	Gets all the attention
Governance	Tempers the faster moving layers and creates checks and balances. Culture intersects with the domain of governance.	Centuries/ Millennia	Slow Remembers Disposes
Culture	Moves slower than political and economic history, often at the pace of language and religion. This is the work of peoples and moves at the pace of centuries.	Millennia	Integrates shocks Continuous Consistency
Nature	Moves slowest but is the most powerful. When disruptions trigger this pace, the implications trigger profound change.	Eons	Has all the power

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KEY MEGATRENDS

Five key megatrends have been identified. The impacts of these megatrends extend well beyond the urban context and are felt intensely through the urban food system. These megatrends¹ include the following:



Each of these megatrends intersects with or has a causal impact on the other megatrends. For example, climate change and biodiversity loss drive migration to cities and urbanisation. However, to see

these megatrends as linked in the linear manner described here would negate the complexity of these processes, occluding the multiple feedback loops that occur in these processes.

¹ These specific megatrends are drawn from the original work by Pieterse (2022), specifically Pieterse, E. (2022). Presentation, All in Society Approach to the Just Transition Urban Festival 2022, African Centre for Cities

CLIMATE CHANGE, BIODIVERSITY LOSS, AND RESOURCE DEPLETION

Climate change refers to long-term shifts in temperatures and weather patterns. Though these shifts may be natural (such as through variations in the solar cycle), since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil. Biodiversity loss is the rapid destruction of nature and the associated interactions and knock-on effects of this loss. While natural cycles and events might shift biodiversity and the relationship within specific biomes, megatrend work locates the drivers of change as anthropocentric. While linked to biodiversity loss, resource depletion refers to the decline in key resources derived from nature that provide key inputs into the multiple systems upon which society depends.

Climate change creates significant challenges in food systems. The Intergovernmental Panel on Climate Change (IPCC) determined that agriculture is a key driver of climate change (Willett et al., 2018). Indeed, food systems have the potential to

nurture human health and support environmental sustainability, but also threaten both. Diets are an inextricable link between human health and environmental sustainability. Global food production is the single largest human pressure on Earth, threatening local ecosystems and the stability of the entire Earth system (Willett et al., 2018). With food production currently causing major global environmental risks, sustainable food production needs to operate within the safe operating space for food systems (Willett et al., 2018). This is made clear in the Synthesis Report of the IPCC 6th Assessment Report (IPCC, 2023, p. 6) that states:

Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020. Global greenhouse gas emissions have continued to increase over 2010–2019, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and between individuals.



Figure 3 Charcoal delivery - Biodiversity and resource depletion.
Source: Consuming Urban Poverty

Climate change not only impacts the availability of food, but increases the incidence of food- and water-borne diseases. For communities experiencing multi-dimensional poverty, there is an increased risk that the safety of this food is compromised. Climate change has adversely affected human physical health globally and mental health in assessed regions and is contributing to humanitarian crises (IPCC, 2023). Climate change, driven by the modes of action of the current food system, contributes to biodiversity loss which, in turn, contributes to and drives climate change. From a climate change perspective, global greenhouse gas emissions must peak before 2025 if we are to see the 43% reduction in greenhouse gasses set as the last resort by the 6th IPCC assessment report (IPCC, 2023).

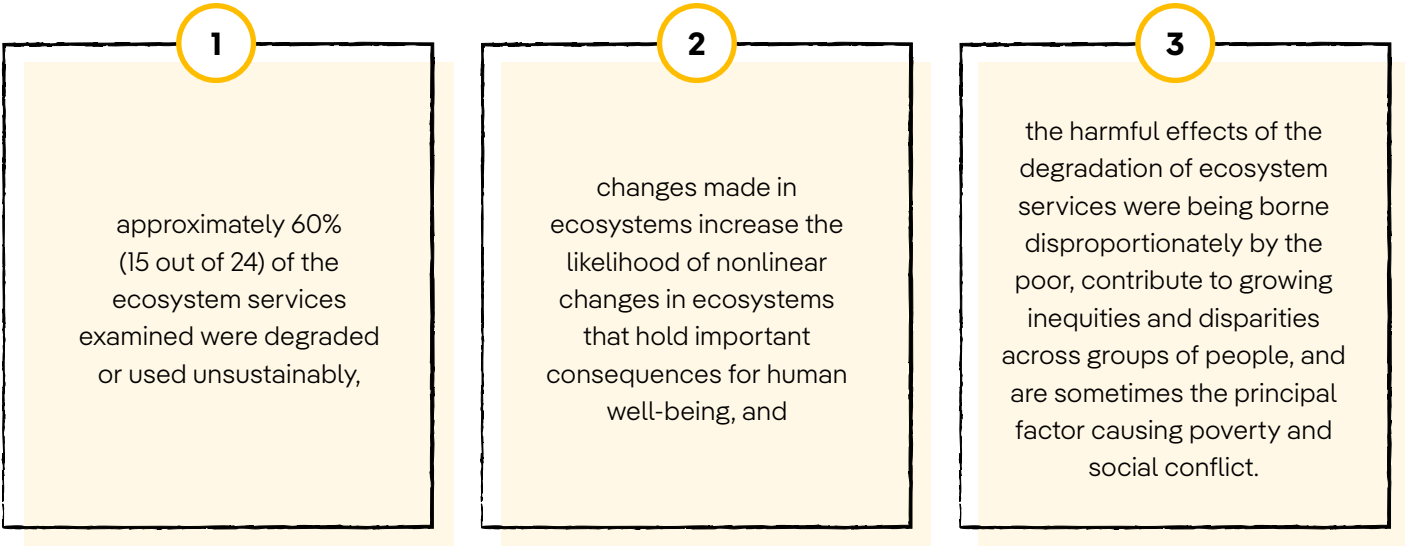
RESOURCE DEPLETION

The FAO’s 2021 State of Food and Agriculture (SOFA) Report opened by stating that “Agrifood systems are increasingly threatened by long-term stresses, such as climate change, deforestation, natural resource degradation and other protracted crises” (FAO, 2021, p. 23). This statement narrows in on the consequences of

current, unsustainable global food system functions. The SOFA report is corroborated by the Global Panel on Agriculture and Food Systems for Nutrition (2020) who state that “today’s food systems are no longer fit for purpose” and that “food systems around the world continue to operate unsustainably” (p. 16). What these global reports fail to capture is the extent and scale of resource destruction caused by the current food system, amplified by past approaches to food production and the structuring of the global food supply system. While the drivers of resource depletion are numerous, current food system practices are a key factor driving the destruction.

BIODIVERSITY LOSS, RESOURCE DEPLETION, AND CONSEQUENCES OF FOOD SYSTEMS

When it comes to resource use and the resultant depletion, it is worth referring to an earlier report, published in 2005 by a team of global experts: the Millennium Ecosystems Assessment (MEA). The report presented clear evidence of ecosystem stress driven by anthropocentric activities and made three critical observations:



WHILE ECOSYSTEM CHANGES SUCH AS INCREASED FOOD PRODUCTION MAY HAVE INCREASED FOOD SUPPLY IN THE GLOBAL SYSTEM, THIS HAS NOT EFFECTIVELY ASSISTED IN LIFTING PEOPLE OUT OF POVERTY OR HUNGER.

The impact and intersecting nature of these three points were most evident in the case of food. The MEA made one of the most profound food system observations at the time: while ecosystem changes such as increased food production may have increased food supply in the global system, this has not effectively assisted in lifting people out of poverty or hunger. Here, the MEA challenged dominant food system ideologies linked to how food security is defined and operationalised, specifically how historical framings of food security, based on availability of food (production), still dominate the wider understanding of food security at the expense of other dimensions of food security, namely accessibility, utilisation, stability, agency and sustainability, and the flawed concept of food security hierarchies (HLPE, 2020).

URBANISATION

Globally, more people live in urban areas than in rural areas, with 55% of the world's population residing in urban areas in 2018 (UN-DESA, 2018). The global urban population is projected to grow by 2.5 billion urban dwellers between 2018 and 2050, with nearly 90% of the increase concentrated in Africa and Asia (UN-DESA, 2018). The proportion of the global population

living in cities and towns is expected to rise from 54% in 2015 to 66% by 2050 (UN-DESA, 2018). Most of this transition will take place in the Global South, especially in Africa and parts of Asia (Pieterse & Parnell, 2014). A business-as-usual approach to developing and governing cities could result in the annual resource requirements of urban areas growing from 40 billion tonnes in 2010 to nearly 90 billion tonnes by 2050, exceeding what the planet can sustainably provide (Swilling et al, 2018). In addition, the long-term historical sprawl of cities by 2% annually threatens to increase global urban land use to over 2.5 million km² by 2050, putting agricultural land and food supplies at risk (Swilling et al, 2018).

The growth of the world's urban population can be put in perspective by comparing dates at which major landmark sizes are reached. For example, the UN-DESA (2018, p.10) states that "The global urban population first reached 1 billion in 1959. It took 26 years to grow to 2 billion in 1985, another 17 years to reach 3 billion in 2002, and just 13 years to add the fourth billion in 2015." They further assert that, with continued urban growth, the world's urban population will reach 5 billion in 2028 and 6 billion in 2041. They summarise that "If the projections prove to be true, then *all* the expected world population growth during 2018-2050 will be in urban areas" (UN-DESA, 2018, p. 11)

Striking differences in patterns of urbanisation exist at the global scale between what the UN reporting frames as the "more-developed regions" and the "less-developed regions". The urban population of the less-developed regions has been growing considerably faster than that of the more-developed regions. The global urban population is projected to grow by 2.5 billion urban

dwellers between 2018 and 2050, with nearly 90% of the increase concentrated in Africa and Asia (UN-DESA, 2018).

Africa's urban population increased more than sixteen-fold between 1950 and 2018, rising from 33 million to 548 million (UN-DESA, 2018). Africa's share of the global urban population is expected to continue to increase to 29% between 2018 and 2030 and to 44% between 2030 and 2050 (UN-DESA, 2018). Asia's share of the global urban population will fall to 57% between 2018 and 2030 and to 45% between 2030 and 2050 (UN-DESA, 2018). However, Africa's urbanisation is not uniform: different regions experience different levels of urbanisation, reflected as a percentage urbanised. However,

percentages often mask the extent of urbanisation in a region and as such, it is also necessary to consider the net numbers of urban residents. This is reflected in Table 2, each reflecting a different urbanisation narrative. Generalised views of urbanisation in Africa, while useful and generative, require further contextualisation. When speaking of urbanisation in Africa, the general imagination is that of the primary African city; the cities of Lagos, Cairo, Dar es Salaam, or Johannesburg dominate most perspectives of Africa's urban landscape. An area requiring far more consideration is intermediate cities (cities of less than 1 million residents) where urbanisation is dominant.

Table 2. Africa's urbanisation disaggregated by the United Nation African Regions

Region	2018 Percent urbanised per region	Total urban population per region	Percent of Urban African by net population
Africa	42.5%	547,602,000	-
Eastern Africa	28.0%	121,316,000	22.2%
Central Africa	49.5%	83,484,000	15.2%
Northern Africa	52.0%	123,644,000	22.6%
Southern Africa	63.6%	41,970,000	7.7%
Western Africa	46.4%	177,189,000	32.4%



● **Figure 4** Street scene in intermediary African city - Urbanization/Changing nature of work/ Influence of Asia in Africa's development.
Source: Consuming Urban Poverty

Table 2 shows differences in Africa's urbanisation rates where some regions (Northern and Southern Africa) are well over 50% urbanised but, collectively, this only represents just over 30% of Africa's total urban dwellers. The most urbanised region, Southern, only accounts for slightly under 8% of all urban Africans. More importantly though, Middle and West Africa are on the cusp of transitioning to predominantly urban societies but already account for just under 50% of all urban Africans ($15.2\% + 32.4\% = 47.6\%$). Importantly, from a food systems perspective that employs a "thick present" approach, the food systems of these highly urban regions, despite the rural imagination of Africa, are already urban food systems (with the exception of East Africa).

These figures, while important, miss a critical defining feature of Africa's urban transition that intersects with all megatrends. Traditional theory on urbanisation framed cities as sites of agglomeration that enable significant economic development, driving wealth accumulation and subsequent development. This was the urban dividend which enabled the economic growth in Europe and North America. In African cities, this is not the case. As African cities transition away from industrial societies, through the technological societies, to as-yet-unknown economic systems, the economic opportunities presented

by cities in Africa are largely absent. Africans are not moving into cities for work in growing industries on the peripheries of cities; these industrial opportunities do not exist.

Cities perform an essential role in Africa's evolving structural transformation because urban environments facilitate growth in critical economic sectors (UN-Habitat & IHS-Erasmus University Rotterdam, 2018). Urbanisation has generally been a positive force for economic growth, poverty reduction, and human development (Ravallion & Datt, 2002). Cities are places where entrepreneurship and technological innovation can thrive (Florida, 2005). Urban areas also serve as hubs for development, where the proximity of commerce, government, and transportation provide the infrastructure necessary for sharing knowledge and information (Mbabazi & Atukunda, 2020). However, Pieterse (2008) questions these generalised framings of urbanisation in the African context and stresses that these articulations do not reflect the current urban transition. Pieterse argues that, given that Africa is urbanising without commensurate growth in industry, urbanisation is occurring without employment growth, thus promoting jobless urbanisation. Pieterse refers to this as the Second Urban Transition.

Urbanisation in Africa is being driven by a number of complex factors.

As the world population increases, urbanization in low- and middle-income countries is propelled forward by natural growth, and, to a lesser extent by internal migration and reclassification. Indeed, from early stages of the urban transition, when the proportion of urban exceeds 30 percent, the natural increase becomes the driving force of urbanization... [and] despite heterogeneity in urban definitions, natural growth is the main contributor to urbanization in contemporary transitions in low- and middle-income countries.

(Menashe-Oren & Bocquier, 2021, p. 655)

Therefore, urban areas are growing in terms of population numbers, but not in terms of industry and the economy. As a result, cities are not creating the formal economic activities that accompanied the urban transition in the North. Instead, Africans are progressing into informality both in terms of how they live and how they interact through the economy. For example, an assessment of the state of informality by Women in Informal Economy, Globalising and Organising found that informal employment as a percentage of total non-agricultural employment in Africa accounted for 66% of all employment (Chen, 2017). Informality thus dominates the economy. Governance attitudes, systems, and policies are not adequately prepared to respond to either informalities dominance in the economy, or the fact that endogenous growth, and not rural under-development, is the key driver of urban expansion and growth. Informality is generally seen as a problem (Skinner & Haysom, 2016) that needs to be removed from African cities (Battersby & Watson, 2018).

DEMOGRAPHIC SHIFTS (YOUTH BULGE)

The urbanisation megatrend reflects shifts in where and how people live. Who those people are and will be is a further essential question. Currently in Africa, the population is young and becoming increasingly younger. The median age of the sub-Saharan African population is considerably lower than other regions, with a median age of 18 and only 3.0% of the African population older than 65 years (Adams et al, 2021). According to UNICEF (2017, p. 6),

Nowhere in the world are children more central to a continent's future than in Africa, where they account for almost half (47 per cent) of all inhabitants. The expansion occurring in recent decades has been extraordinary. In 1950, Africa's child population stood at 110 million and represented just above 10 per cent of the world's child population. It has grown more than fivefold since, and currently stands at an estimated 580 million: four times larger than Europe's child population, and accounting

AFRICA NEEDS 5.8 MILLION MORE PRIMARY SCHOOL TEACHERS TO MATCH THE PUPIL–TEACHER RATIO OF BEST SUB-REGIONAL PERFORMERS BY 2030

for about 25 per cent of the world's children.

When focusing on the future African population and the anticipated growth trajectory, UNICEF (2017) points out how this “extraordinary” growth is set to increase and accelerate further. They state that “between 2016 and 2030, Africa’s child population is projected to expand by about 170 million, elevating the continent’s total to 750 million. And by 2055 Africa will be home to 1 billion children, almost 40 per cent of the global total” (p. 6). The prospect of 40% of the population, 1 billion youth, being in Africa clearly justifies the youth bulge as a megatrend. The implications of this between now and 2055 is equally profound. This offers one of the key cautions in this megatrend work, reflecting significant health, developmental, and political consequences.

This has wide developmental implications for Africa. For example, more than 50% of the world’s under-five deaths now occur in Africa. Over 50% of all births in Africa are now supported by skilled birth attendants (midwives, nurses, or traditional birth support assistants), but Africa needs 5.6 million more professional health workers to meet the WHO minimum standard of health service provision by 2030. Since 1990, the number of children with

access to primary education in Africa has more than doubled, but to keep pace with the rapidly changing youthful population, Africa needs 5.8 million more primary school teachers to match the pupil–teacher ratio of best sub-regional performers by 2030 (UNICEF, 2017). African countries are already battling to fund primary education (UNICEF, 2017); strategies and plans to ensure adequate support and requisite training for this significant cohort of needed educators require significant investment.

The intersections between the transition to urbanisation in Africa and the challenges associated with climate change, biodiversity loss, and resource depletion impact children and often in extreme ways. It is increasingly recognised that the natural and physical environment in which a child lives strongly influences their well-being. Africa currently has the highest number of children living in areas prone to high or extremely high drought severity: 84 million or 15% of the continent’s population of children (UNICEF, 2015a). More than 350 million African children live in homes where solid fuel is used (often for food preparation), significantly increasing their exposure to indoor air pollution (UNICEF, 2015b). As Africa’s cities rapidly expand, outdoor air pollution is becoming a threat to children’s health across the continent (UNICEF, 2015b).

TECHNOLOGICAL CHANGE & WORK (DIGITISATION & INFORMALITY)

At the intersection between urbanisation and demographic shifts and climate change, biodiversity loss, and resource depletion sits a megatrend in technological change that affects the nature of work. As Africa expands through jobless growth, a process associated with increased financialisation, expanding inequities, and an informalisation of the economy, a fundamental change in the nature of work is inevitable. The traditional notion of work (employment linked to a skill that derives a salary) is nearly unattainable for most urban dwellers in a contemporary African society. This is challenging for the undereducated urban poor who are caught in a society that is rapidly transitioning toward technology and digitisation in the workplace and wider economy.

A lot has changed in the discourse and intent of international development since its inception, but the language of technological acceleration remains ubiquitous today (Pollio, 2022). Unfortunately, that transition poses a potential for significant exclusion of people that lack access to supportive technology and the Internet (Castells,

2010). When communities don't have access to the quality and types of technology that the industrial world uses, their potential to engage in industrial employment is limited, motivating them to seek employment elsewhere and often find it in the informal sector (Pollio, 2022). A variety of forms of informal hybridity are emerging: versions of informal that don't comply with traditional industrialised manufacturing imaginations (Hyman & Pieterse, 2017). In recent years, technological innovation and technology infrastructures have expanded rapidly, enabling many innovative technological advances. However, in Africa, technological penetration lags significantly behind other regions. Equally, the modes of technology access are largely mobile based, further limiting penetration (Corrigan, 2020). Technological platforms are enabling multiple processes; how just and equitable these are is varied (Pollio, 2022).

Across the African continent, technological innovations such as *Mpesa* (the East African mobile payment and banking system) are changing the rules of the game. Online purchasing is changing the nature of food retail. In certain cities, supermarkets have failed to take hold as society leapfrogged from buying food from street vendors to purchasing food through technological platforms linking small-scale food distributors to consumers. However, a great deal of how the technological transition of employment in Africa is framed rests on the imaginations of the users of this technology, a challenge that Pollio (2022, p. 760) frames as “technological acceleration [that] offers both a language and a model for anti-poverty experiments hinging on the elusive market subject of the African entrepreneur”. While technology offers significant opportunities, a deeper

MANY AFRICANS ARE ADOPTING TECHNOLOGY, NOT BECAUSE OF ITS UTILITY TO THEM, BUT BECAUSE ITS USE OFFERS GREATER OPPORTUNITIES THAN THE CURRENT STATE OF UNDERDEVELOPMENT.

political and ideological battle is also at play. Many Africans are adopting technology, not because of its utility to them, but because its use offers greater opportunities than the current state of underdevelopment. This is contrary to a generally held view of the interrelationship between technology and development.

The role that technology can play in wider African and urban development needs to be embraced, but with caution. Key to this is to ensure that whatever technology and subsequent changes in the nature of work that it brings, that

they are in the best interests of the users, specifically the urban workforce. How cities, the youth in those cities, and new technologies intersect reflects pathways toward a very different way that work and the opportunity to obtain employment start to connect. What this means for food is unclear when argued from a global (macro) perspective, but in African cities these new megatrends are emerging and it is often the food retail system, specifically the informal sector of that system, in which new technologies are prototyped by vendors and moulded in absence of connections between governance and innovation.



Figure 5 Cash free payments in Kenya's informal sector.
Source: Nicole Paganini, 2022

SHIFT IN GLOBAL ECONOMIC POWER TO ASIA

A central feature of an interregnum is a period between regimes. No other shift in the *status quo* quite reflects this shift as the shift in the locus of global power to the east. While Western donors may still hold the bulk of the donor funding, something else is at play: something built on different relationships, different values, and different geo-politics (Anthony, 2016). Such concerns have been expressed directly to the authors by Western-based development and policy organisations, but confirmed by others (Wasserman, 2016). These shifts have been rapid, but constant over time. Observable changes in African cities include airport new builds or upgrades, hotels, bulk infrastructure, and transportation infrastructure (Croese & Miyauchi, 2022). The drivers of this development are not just state-funded projects. Often Asian states have laid the foundation for significant investment through private-sector operators (Huang, 2016).

The most well-known of these initiatives is China's Belt and Road Initiative (BRI) which is China's international economic ambition, aiming at stimulating economic development in the vast region covering sub-regions in Asia, Europe, and Africa accounting for 64% of the world's population and 30% of the world's GDP. The Initiative is devised to reconfigure China's external sector to continue its strong growth (Huang, 2016). The investment from China in African cities exceeded most other urban development. As Goodfellow (2020, p. 262) has pointed out, "China accounts for as much as 30% of the total value of infrastructure projects in Africa, far outstripping the combined infrastructure

loans from the World Bank" and as a result, China's contribution to Africa's urban transformation and infrastructure financing is significant.

It is not just China that is actively investing in and playing a leading development role in Africa. The Japan International Cooperation Agency (JICA) is supporting the local production of master plans across the African continent as a tool for guiding long-term investments in urban development. This forms part of a wider resurgence of large-scale infrastructure-led development and spatial planning in Africa (Croese & Miyauchi, 2022).

South Korea takes a slightly different approach in its engagement with Africa. As Kalinowski and Joung Park (2016) have pointed out, this engagement has its origins in South Korea's own history as a developmental state. In Africa, while most Korean investment has been implemented at a national scale through Overseas Development Assistance (ODA), the implications for urban communities are significant.

This shift in power and the interface between development planning and private-sector investment, specifically in two key areas that are vital to urban development (infrastructure and information technologies) reflects a transition that is yet to be fully realised. These processes land and drive the African urban development trajectory, determine the path dependencies that infrastructure investments offer, and direct how urban cultures, governance, infrastructures, and economies function. These investments are changing the nature of African cities and these changes intersect with the food systems in yet unseen and certainly understudied ways.

5

DISCUSSION AND CONCLUSION

Intersecting megatrends change how society engages, relates, and acts. As a result, any discussion on megatrends must consider change in, reactions from, and issues associated with society. Not only is society changing, but so too is nature. The resource endowment, both mineral and natural, that enabled the first phase of development is finite and at its limits. As a consequence of the (over)use of this resource base, climatic and global systems have been altered to such an extent that planetary boundaries are being breached (Rockstrom et al, 2009). Even if such resources were accessible, their use would exacerbate climate change and erode any positive development ideals. Not only does development need to be reconsidered, so too do the relationships with nature require alternative approaches, including engagement in the pluriverse (Escobar, 2011). Cities need far greater voice and recognition in that pluriverse.

If cities are to make a lasting, structural contribution to addressing the spectrum of food issues associated with urbanisation or make meaningful progress toward meeting global goals, they need to become more innovative

and ambitious. It is essential to progress from single policies to more deliberately integrated policies that take stock of all food-related issues in the urban context and all policy levers at a city's disposal (IPES-Food, 2017). Central to engaging this process is engaging megatrends.

Megatrends in developing regions, particularly in sub-Saharan Africa, have challenged long-held notions about the association between urbanization and economic growth (Fay & Opal, 1999). For the first time since the beginnings of industrial modernization in the 1950s, there is a near-universal acknowledgement that the current model of economic growth is untenable. A new pathway has to be found that is more environmentally sustainable, socially just, and economically inclusive (Dunford et al., 2016). The issues pertain not just to food and economic system considerations. Urban development itself is directly linked to megatrends. As Pieterse et al (2018, p. 162) have pointed out "Forecasts that the continent will experience a demographic dividend over the next 40 years assume that basic needs, such as infrastructure and services, will be met for the majority".

Infrastructure is directly linked to all megatrends in one form or another. Significant infrastructure will need to be built to enable not just the demographic dividend, but also just cities and a just and equitable food system in African cities. Africa's infrastructure gap is estimated to be "just under US\$100 billion a year and amounts to 15% of African GDP each year, double the current spending level" (Turok, 2016, p. 39). However, the construction of this infrastructure cannot follow past modes that either ignored or contributed to

ecological and ecosystem destruction. As Pieterse et al (2018, p. 151) have argued, the "scalar recalibration assumes greater urgency for Africa... because the urban transition of the next few decades will be formative of future developmental opportunities... the demographic clock is ticking and the next two to three decades will define the urban transition."

Aligned directly to the development opportunities of the next two decades are megatrends. If these are not



● **Figure 6** Streetfood items sold from large containers, Kitwe, Zambia - Digitization and the changing nature of work/informality.
Source: Consuming Urban Poverty.

actively integrated into the delivery of development opportunities, the consequences for Africa, not just urban Africa, will be dire. Africa's urban infrastructure investment over the next 20 years will determine the success of Africa over the next century. For this to usher in a successful future, due appreciation for the megatrends is essential.

However, invoking the megatrends as the motivator of change is insufficient. The pace layers offer essential insights into the modes of action and where action is required. Actors seeking to enable the African urban revolution need to ensure that they avoid being caught in the pace layer domains of fashion, economics, and infrastructure (Pieterse & Parnell, 2014). For lasting, robust, and sustainable change, actors driving processes need to ensure that the focus is on pace layers that hold memory, that integrate shocks, that are continuous, and that hold power (Brand, 2018). These are the pace layers of governance, culture, and nature. Much like the 1950s and thereafter, societal change has been expedited when issues of governance are addressed at a global scale (for example, through the United Nations) or national scale through new modes of governmentality and the cultural adaptation to changes in values.

This same period also poses a significant caution: the period following the 1950s precepted significant changes in nature such as the green revolution

in agriculture, the rise of modernism, and industrialisation, all with dire consequences for nature and the environment. These lessons require careful attention.

The megatrends offer essential insight into possible new pathways to more equitable urban food systems. The invoking of the concepts of the blue hour and the interregnum are used deliberately because the current modes of governance, the "rule book" as is applied to development, the current global agreements such as the General Agreement on Trade and Tariffs and the various rounds of trade agreements, as well as broadly held development logics and positions, do not serve Africa. These marginalise Africans, particularly the urban majority. Not only do these marginalise, they actively undermine and curtail the potential of "Africa's Rise". Further, the megatrends demonstrate that unless the rule books are fundamentally re-written, the aspirations of Africa, and specifically those embodied in global and regional agreements and goals, such as the SDGs, the NUA, and Agenda 2063, will not be realised. The rule book(s) require review and rejection, if deemed to be contributors to Africa's marginalisation. The megatrends offer direct justification for such a stance and rejection.

The focus on crises and the multiple dimensions of the polycrisis is essential and action in respect of crises is

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needed. However, for Africa's urban transition to embed deeply and fundamentally change culture and governance, focusing on and engaging the megatrends are also essential. Such work needs to take place in conjunction with responses to crisis. The megatrends offer an opportunity to assess and act in the present, a present that also

draws on the past, so as to project and anticipate a possible African urban future in which society can thrive, despite the implications of the megatrends.

Africa's future is an urban future and the future will be informed by and calibrated according to megatrends. Megatrends, therefore, require far greater attention.



Figure 7 Evictions in Mukuru settlement in Nairobi.
Source: Patrick Njoroge, 2022

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