



The Ethiopia Urban Expansion Initiative and knowledge exchange

PATRICK LAMSON-HALL

RICHARD MARTIN

*Author affiliations can be found in the back matter of this article

SPECIAL COLLECTION:
URBAN EXPANSION

RESEARCH

]u[ubiquity press

ABSTRACT

Rapid urban expansion in Sub-Saharan Africa is a challenging policy problem with few demonstrated solutions. An approach for managing rapid urbanization resulted in considerable changes in planning strategies in cities in Ethiopia. An initiative from 2013 to 2016 created organizational capacities and capabilities. An external consultant facilitated knowledge exchange, but left the major planning activities to the public sector bodies. Local technical staff and political leaders were trained to create and implement plans for the next 30 years of urban growth in their cities. The paper describes the role of knowledge exchange in empowering local government officials to implement the approach. It outlines the approach itself and then describes the process of knowledge exchange and the challenges and successes that resulted.

PRACTICE RELEVANCE

Urban planning and expansion require forethought as well as sustained effort for delivery over time. A successful intervention is presented together with a core factor of knowledge exchange. The role of the external consultant team was unusual: to provide a limited amount of input data and instead focus on guidance and advice. The significance of simple ideas is their ease of sharing amongst policymakers as a strategy for producing local ownership. Diffusion and dissemination of good ideas often stops after a single expensive and time-consuming pilot project, in part because complexity prevents the participants from attaining expertise to spread the idea without external support. Urban expansion planning is framed as an example of a planning approach that emphasized knowledge exchange. The conclusions could also apply to the development of any future planning techniques that depend on local implementation and uptake.

CORRESPONDING AUTHOR:

Patrick Lamson-Hall

Marron Institute of Urban Management, New York University, New York, NY, US
plamsonh@stern.nyu.edu

KEYWORDS:

capacity-building; cities; knowledge exchange; urban expansion; urban migration; urban planning; Sub-Saharan Africa; Ethiopia

TO CITE THIS ARTICLE:

Lamson-Hall, P., & Martin, R. (2022). The Ethiopia Urban Expansion Initiative and knowledge exchange. *Buildings and Cities*, 3(1), pp. 772–791. DOI: <https://doi.org/10.5334/bc.247>

1. INTRODUCTION

This article focuses on the introduction of urban expansion planning (UXP) in Ethiopia, specifically in four pilot cities. UXP is a simplified planning methodology for rapidly growing cities with limited resources. Initially introduced by New York University's Marron Institute of Urban Management in a core group of cities in Ethiopia and Colombia, and recently expanded by the Cities Alliance to include cities in Somaliland and Uganda, the approach was proposed in its modern incarnation by Angel (2008) and described in detail in a paper elaborating on the example of Ethiopia (Lamson-Hall *et al.* 2019).

The distinguishing characteristic of the UXP methodology is its reliance on local public sector actors for the design of large-scale urban plans. In this it differs markedly from the status quo in which major planning activities are largely done by consultants from outside the public sector. The potential benefit of this distinguishing characteristic is an easier path toward implementing the urban plan on the ground.

The focus of this paper is to assess the success of the exchange of knowledge of the methodology from the consultant team that brought it to Ethiopia to the public sector officials at the national, regional, and local levels. Those officials are generally responsible for plan implementation, and, with UXP, also responsible for the design of the plan.

The paper is structured as follows. This first section frames the context that informed the methodology brought by the consultant team, which came in response to rapid urban growth and deficient planning efforts in rapidly urbanizing regions. The second section presents the methodology itself. The third section describes the specific approach used by the consultant team to exchange the knowledge. The fourth section considers the success of the knowledge exchange in terms of its impact on the ground and continued use of the methodology. The conclusion discusses the long-term impact of UXP and the factors that likely contributed to the successful creation of country ownership.

1.1. RAPID URBANIZATION AND LIMITED PLANNING

It has been widely observed that humanity is relocating from rural areas to cities (Angel *et al.* 2011; Seto *et al.* 2011). Rapid urban population growth is leading to massive unplanned spatial expansion on the peripheries of cities. The major loci of urbanization in the coming decades will be Sub-Saharan Africa and South and Central Asia, regions that are expected to add 2.35 billion urban residents by 2050, roughly 13-fold greater than the increase in the remaining world regions combined. In Sub-Saharan Africa, this amounts to a three-fold increase in the total population living in urban areas in a generation. Urban growth at this scale and speed has been occurring in these regions for at least 25 years.

A study of the rate of urban expansion in a global sample of 120 cities between 1990 and 2000 (Angel *et al.* 2012) showed that although the population of the cities in this sample grew by 17%, on average, during this period, the built-up area of these cities grew by 28%, almost two-thirds faster than the rate of population growth.

This is not a new phenomenon. In a global representative sample of 30 cities between 1800 and 2000, the areas of 28 of these cities grew by at least 16 times during the last 70 years of the 20th century (Lamson-Hall 2014). Projections have shown that as densities decline, on average, by 1–2% per year, the area of rapidly growing cities will grow by four to seven times, on average.

Anecdotal and empirical evidence from urbanizing regions shows that the majority of the urban spatial expansion observed in the last several decades has been unplanned, or minimally planned by non-state actors. By one estimate, 90% of Sub-Saharan Africans live in informal housing, produced by actors who do not seek planning permission (Parby *et al.* 2015).

The negative consequences of unplanned urbanization include infrastructure costs as much as three to seven times higher (Abiko *et al.* 2007), greater vulnerability to climate risks such as sea level rise, storm surge, and extreme precipitation (Satterthwaite *et al.* 2020), less flexibility when

accommodating migrants and refugees (Lamson-Hall *et al.* 2022), major challenges in furnishing land for industrial development,¹ long-term isolation of informal settlements (Napier 2007; Shatkin 2004), and less efficient and less functional metropolitan labor markets (Lépore & Simpson 2018), potentially resulting in lower local, regional, and national outputs.

Contrast this with the observed benefits of successful urbanization, which include higher national income (Henderson 2010), higher individual incomes (Moretti 2004), higher levels of education (Bertinelli & Zou 2008), longer life expectancies (Leon 2008), greater freedom for women and girls (Ghosh & Roy 1997), lower rates of child malnutrition (Amare *et al.* 2020), and better access to water and sanitation (Chaudhuri & Roy 2017), to name a few, and it becomes clear that any techniques that can lead to more orderly urbanization on the ground are worth serious investigation and evaluation.

1.2 THE PLANNING STATUS QUO IN SUB-SAHARAN AFRICA

Rapid urban expansion demands a correspondingly robust response from governments. But considerable investments in urban planning over the past several decades have not significantly improved the share of planned new growth in rapidly urbanizing regions, based on the previously mentioned data on informality.

Consider Lusaka: the 2007 *The Study on Comprehensive Urban Development Plan for the City of Lusaka* (produced over 16 months by the Japan International Cooperation Agency (JICA), KRI International Corp., Nippon Koei Co., Ltd, and Japan Engineering Consultants Co., Ltd) is 325 pages long and identified US\$420 million in ‘short term priority projects’ to be implemented by 2015 (JICA Study Team 2009). The objectives of this plan were:

- i) Industrial development/capacity empowerment of local manpower, ii) appropriate spatial development and land use control, iii) urban center development, iv) urban transportation development, v) living environment improvement for housing, local road, utility service, social service, etc., vi) natural environment protection/green network development, and vii) utility and social service development.

(JICA Study Team 2009: S-1)

Meanwhile, the population of Lusaka expanded from 1.5 million in 2009 to an estimated 2.25 million in 2020. Of these 750,000 new urban residents, 50% lived in new and unplanned settlements, with a corresponding increase in the area of the city (Chiwele *et al.* 2022). Also, Lusaka City Council had in 2015 an annual budget of roughly US\$18 million (Chanda Davies 2014), a far cry from the US\$420 million called for in the first six years of the plan.

This story is common in rapidly urbanizing developing countries. National governments arrange with international development partners to produce plans for urban centers. The plans are delivered to the local authorities tasked with implementation. Despite efforts at prioritization, the proposed projects vastly outstrip the available human and financial resources. In the meantime, city officials are left with no applicable guidance for how to manage urban growth (Watson 2009).

In retrospect, the main priority of the plan should have been accommodating the massive population growth in the city. Instead, the city government was likely overwhelmed and completely failed to prepare adequate lands for growth or to implement the ‘short term priority projects’ laid out in the plan.

Physical measurements from satellite imagery show that only 10% of newly built areas in cities in Sub-Saharan Africa have gridded road layouts with four-way intersections. The average road width in cities in Sub-Saharan Africa is 7.7 m, a reduction of 2.5 m from 1990 (Angel *et al.* 2016). Planning is failing to keep up and is falling further behind.

2. METHODOLOGY: URBAN EXPANSION PLANNING

The Urban Expansion Initiative was launched in 2012 with a focus on rapidly growing cities. The initiative, based on a 10-year global study of urban expansion, aimed to assist rapidly growing cities in developing countries in preparing for urban expansion by training them to take a leadership

role in managing their own growth. It was not established with the primary goal of making plans for rapidly growing cities. Instead, the purpose of the initiative was to build the capacity of personnel with legal and functional responsibility for planning by teaching a technique called ‘urban expansion planning’ (UXP). While the main purpose of this paper is to assess the success of the effort to create knowledge exchange, familiarity with the approach itself is necessary in order to understand how that process proceeded.

UXP was introduced to Ethiopia in 2013 by a consultant team working for the Urban Expansion Initiative. From 2013 to 2016 municipal government technical staff and political leaders, regional urban bureau representatives, and members of the federal Ministry of Urban Development and Construction (MUDEC) participated in a series of workshops and trainings. City team members were also provided with formal and informal consultations. During that period, the participants at the training (both trainers and trainees) worked to implement the (UXP) methodology, summarized here as a four-step process:

1. Making a realistic map of expansion based on estimates of future growth
2. Demarcating generous municipal boundaries
3. Identifying environmentally sensitive large public open spaces and planning an arterial road network across the expansion area
4. Preserving the arterial road network rights of ways and public open spaces

In UXP, the activities are not led by outside consultants. Instead, the role of the consultants is to train local teams (with ‘local’ here broadly defined to include national and regional government officials) in how to do these things. The consultant team provides a limited amount of input data and a lot of guidance and advice.

UXP is unique in its simplicity, emphasis on local leadership, singular focus on the urban periphery, scope, and adaptability in different contexts. People trained in UXP are encouraged to respond to rapid urban growth by organizing land in the expansion area of the city to accommodate the next 30 years of growth. This is a simple rendition of a complex process. Additional information on the specifics of how these ideas applied in Ethiopia will be discussed below.

The first step in organizing the expansion area is to identify where growth is likely to take place in the next three decades. The expansion area used for UXP begins on the urban periphery (delimited based on the idea of the extremum tectorum and inclusive of informal settlements; *Angel et al. 2016*) and includes an area with sufficient land to accommodate the next 30 years of urban growth (*Lamson-Hall et al. 2019*).

The consultant team provides a satellite imagery analysis of the growth of the city over time and participating officials gather old demographic data and future projections. The participants then work with these inputs to estimate how much land is likely to be needed for urbanization. Participating officials then use these estimates to designate a future area of expansion.

Because of the rapidity and scale of urban growth, most cities lack sufficient land within their existing boundary to accommodate 30 years of expansion, based on their projections. Participating officials must then take the lead in modifying their administrative boundaries, or otherwise obtaining planning permission in the expansion area.

Within the proposed expansion area, participating officials identify known areas of high value that should be protected from urbanization. These are called ‘environmentally sensitive public open spaces’, but can also include areas with a very high risk of natural hazards or important cultural heritage sites.

Having identified the expansion area (based on growth trends) and major non-urbanizable lands, the next step in organizing the expansion area is to establish an enabling framework for sustainable, high-productivity growth in areas that are suitable for urbanization. To do this, participating officials are taught to lay out a simple grid of rights of ways (sometimes called road reserves) for arterial roads. The right of way for an arterial road should be roughly 30 m wide (this can vary based on context) and roads should be spaced about 1 km apart, forming a gridded network (*Figure 1*).

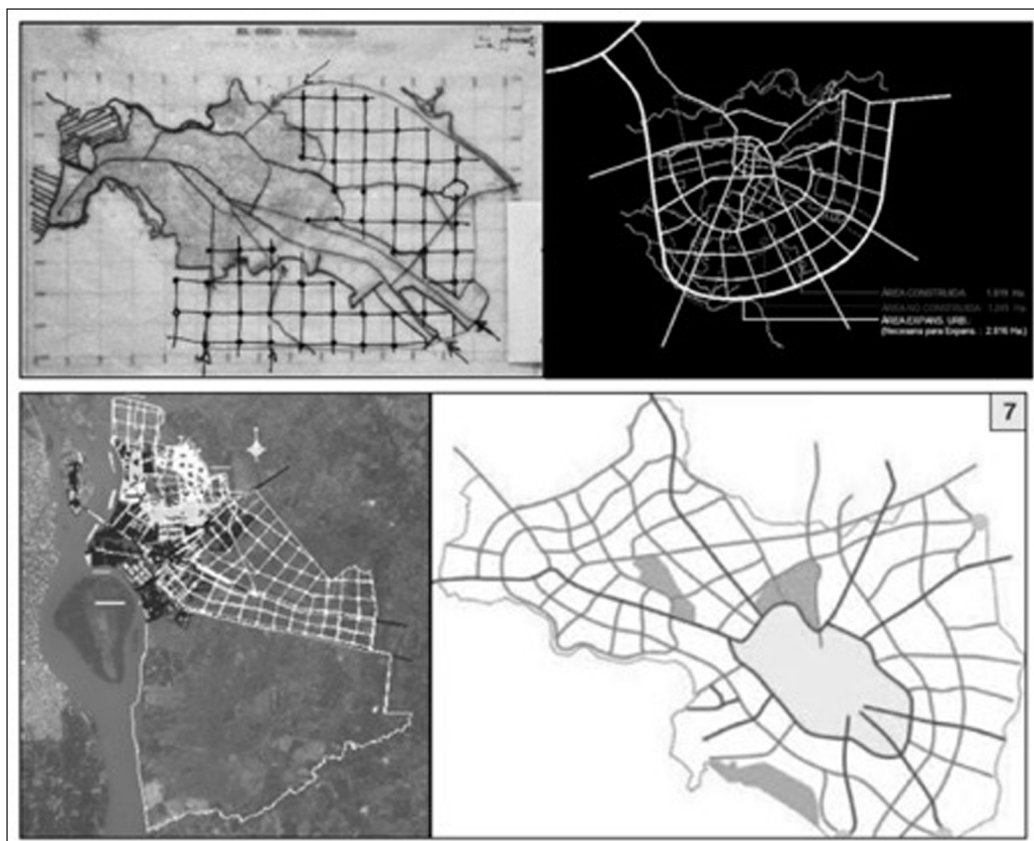


Figure 1: Four examples of arterial grid plans showing the simplicity of the approach. Source: Angel (2008).

When an area begins to show signs of development, the rights of ways mean that the city will already have the land in place to build a network of roads, with sufficient width to carry bus rapid transit or other mass transit, and with space for sidewalks, bike lanes and vehicle lanes, or other transportation uses already reserved.

Like all road rights of ways, the arterial road rights of ways are also able to carry trunk infrastructure such as water, major drainage lines, electricity, telecoms, and sewerage. These amenities may not be affordable when the rights of ways are secured, depending on the level of resources available to the municipality. But having the network of rights of ways in place will reduce the cost of providing such infrastructure in the future.

The arterial road network is designed to cover the entire expansion area. As stated above, roads are designed to be 30 m wide, and spaced 1 km apart. This will amount to about 6% of the total land in the expansion area. No point within these macroblocks will be more than 500 m (straight line distance) from an arterial road that can carry public transportation—just a 10–15-min walk. The grid need not be rectilinear, but planners are encouraged to use four-way road intersections that have traffic-reducing network effects. The connectivity that this grid provides to new areas of development will facilitate the formation of an integrated metropolitan labor market (Mackinnon 2015).

The UXP methodology does not extend to planning the interiors of the macroblocks. This is partly because land-use planning needs will change as the economy and culture of the city evolve. Attempting to anticipate such needs now for the next three decades would probably not be useful. More importantly, neighborhood plans for macroblock interiors should be informed by stakeholder consultations that take place much closer to the time of construction.

Establishing these public goods means not only drafting a paper plan, but actually preserving the road rights of ways and the environmentally sensitive public open spaces from squatting or incursion, while still allowing farming, grazing, and other rural uses until they are needed for road construction.

Preserving road rights of ways from settlement can take place through formal acquisition, community negotiation, or other approaches. Planners can choose to adjust the routes of roads in response to feedback from people on the ground, whether to simplify the acquisition process or to respond to local concerns. During the surveying process in Ethiopia this happened often.

This spare, minimalist planning methodology is not meant to address all the needs of the future city. Rather, the goal is to put in place in advance the elements of an urban layout that are difficult or impossible to procure once development has occurred.

3. KNOWLEDGE EXCHANGE

Plans are meant to guide action on the ground. Implementation of any plan—including an urban expansion plan—requires staff time, materials, and budget allocations at the level of the implementing authority. Those resources that will only be made available if plans are perceived to be feasible and can be owned by local actors—including national, subnational, and local politicians and technical staff.

The simplicity of the UXP methodology was key for successful local ownership. A basic plan with few elements is easy to communicate to stakeholders, can be successfully modified by local planners, and can be fully embraced by political leaders at the municipal, national, and regional levels who control the budgeting process and must lead any implementation effort.

Ethiopia is governed by a federal system, but control is highly centralized. At the national level the MUDC sets policy, coordinates international aid, and provides technical support. The regional government urban bureaus control budget allocations to most cities and provide additional technical support and monitoring of deliverables. At the city level, municipal urban planning departments and land management offices operate under the authority of local mayors and city managers, but with strong regional and central guidance. The municipal authorities are responsible for engaging citizens in the planning process.

Sensitive to this power structure, the consultant team decided to introduce UXP from the top down via a well-placed information broker to generate support at higher echelons of government. The idea was then cascaded to the regional and local levels. The consultant team then worked with the MUDC and the regional urban bureaus to help municipal authorities take concrete actions toward implementation. As familiarity and expertise with UXP grew, the consultant team was able to step into a less active role.

This process was ad-hoc at the time and somewhat nonlinear, with different cities performing at different levels, but it can be approximated as taking place over three stages:

- *Introducing UXP*

The consultant team brought the idea of UXP to a top official via a well-placed information broker who provided data and information. Endorsement by the top official legitimized this idea within the state apparatus. The consultant team and MUDC then introduced the specific UXP methodology at the regional and local levels

- *Spreading the methodology*

The consultant team, MUDC, and regional bureaus fostered an ongoing exchange with municipal leaders and technical staff around how to apply UXP in practice. The group worked to co-create solutions to the problems that arose

- *Consolidating local ownership*

Local leaders acquired expertise and became trusted interlocutors as the idea spread to more municipalities. The consultant team concentrated on institutionalization, identifying and addressing long-term challenges, and creating opportunities for peer-to-peer learning

3.1 INTRODUCING URBAN EXPANSION PLANNING

3.1.1 Endorsement by a top official

The UXP methodology was introduced against a backdrop of relatively conventional planning practices in Ethiopia. Urban planning relied on master plans, subsequently renamed structure plans, that were prepared every 10 years by teams of consultants (Dube 2013). The process typically involved lengthy in-depth data collection on every aspect of the city's physical and economic condition, and produced detailed and highly prescriptive zoning, transportation, and economic development plans. Urban growth was accepted as inevitable, but the plans did not look more than a decade into the future (Ozlu *et al.* 2015).

Ethiopia's Ministry of Finance and Economic Development (MFED) recognized the need for investment in urban infrastructure, even while remaining silent on how it would be developed:

In view of the role of urbanization for economic and social development building the necessary urban infrastructures will be given emphasis to ensure rapid and equitable growth of urban centers.

(MFED 2010: 25)

Due attention will be given to enable urban centers to have adequate urban infrastructure, promote small businesses and jobs, and conducive environment that is equitable with the demands of ever-increasing urban population.

(MFED 2010: 82)

The consultant team entered Ethiopia with a strong knowledge broker in Dr. David DeGroot. DeGroot, who retired from the World Bank in 2012, had for many years led major capacity-building initiatives in Ethiopia and was well known and trusted at all levels of government. In early 2013 he brought the UXP idea to the leader of the MUDC, Minister Haile Mekuria. DeGroot shared arguments that UXP aligned with several national development objectives (NYU Marron Institute of Urban Management 2013):

- *An anti-poverty objective:* by opening up sufficient lands for urban expansion, land prices, and hence housing prices in both formal and informal markets will remain affordable
- *A planning objective:* by locating the grid now, municipalities can actively shape future growth
- *A transport objective:* the grid would function as an efficient framework for a public transport system crisscrossing the entire expansion area within a 10-min walk of all locations
- *An environmental objective:* the arterial grid will be an essential element of an effective public transport system—it will also provide planners with an effective tool for directing urban development away from sensitive natural habitats
- *A financial objective:* municipalities will be able acquire the land needed for the grid now, and individual road segments can be improved to higher standards later as demand for travel along them increases—costs will be many times lower than the cost of pushing an arterial road through a fully built neighborhood

Minister Mekuria understood the value of the approach as he stated at the UXP launch workshop in 2013 (NYU Marron Institute of Urban Management 2014). The minister also agreed that local urban planners could manage the process with the right support. To this end, he established a team at the MUDC to pilot the approach in four cities: Adama, Bahir Dar, Hawassa, and Mekelle. The consultant team's institution entered into a partnership with the MUDC to provide technical assistance to these cities. Funding for capacity-building under the pilot came from the consultant team's institution.

3.1.2 First city visit

In May 2013, DeGroot, urban planner Richard Martin, project coordinator Tsigereda Tafesse, and engineer Yohannes Fisseha from MUDC visited the four cities to share the concepts behind the

program with mayors and city managers and help from UXP teams in each city to manage the process. The teams worked with their mayors and city managers and officials from the regional urban development bureaus to begin to draft their expansion plans.

Preliminary population projections for these cities were shared with the leaders and urban expansion teams, revealing the likely magnitude of future urban growth (Table 1).

CITY	PRESENT POPULATION	POPULATION, 2040	GROWTH BETWEEN 2010 AND 2040 (AS A MULTIPLE OF CITY LAND AREA)
Adama	253,000	954,000	3.8
Bahir Dar	178,000	656,000	3.7
Hawassa	190,000	1,222,000	6.4
Mekelle	254,000	1,235,000	4.9

Table 1: Population growth estimates shared with the four cities in early 2013.

City leaders understood the inevitability of urban expansion, though there was some skepticism about the magnitude of growth presented (Table 1). They were not completely persuaded that their local staff would be able to execute the idea, or that the results would be useful (Angel *et al.* 2013a). Although local leaders were not fully persuaded, the doubts they raised showed their rapid mastery of the core concepts. Those doubts, and the consultant team responses, initiated a collaborative process of co-creating solutions.

For the urban expansion teams, the approach of using broad-brush arterial grid plans that could be refined over time was different from what they were used to. The consultant team had constantly to emphasize that the plans were conceptual and that they should be thinking big and broad. Specific roads and open spaces could—and must—be modified later based on ground surveys and community consultation. Local land uses and neighborhood layouts could also be decided later. After several exchanges, team members agreed that UXP required strategic-level thinking (Angel *et al.* 2013a).

A launching workshop was scheduled for a month after the first visit to the cities. City teams were asked to prepare simple presentations discussing the conditions around urban growth in their city, and use their new data to prepare simple plans based on the UXP methodology.

By the end of the two- to three-day visit each city team was equipped with new data and knowledge and felt capable of independently creating a draft plan for their expansion areas, with the knowledge that it would be refined at the workshop.

The next stage in the introduction of UXP in Ethiopia focused on improving the plans, exchanging local and international knowledge, and working together to produce a credible strategy for implementation on the ground.

3.2 SPREADING THE METHODOLOGY

A two-day launch workshop was held in July 2013. The four goals of the workshop were (1) to secure the political commitment to UXP by bringing together regional and national officials; (2) to showcase the city urban expansion teams' new useful knowledge to their peers and superiors; (3) to consolidate the knowledge-exchange process by creating an additional opportunity for city urban expansion teams to engage with consultant team members; and (4) to complete the initial planning activities and engage participants in preparing for implementation.

The event was filmed and several people were interviewed, thus quotations are available from participants regarding its effectiveness. Additional detailed information about the launch workshop came from The Ethiopia Urban Expansion Initiative: Interim Report 2 (Angel *et al.* 2013b).

Minister Mekuria opened the first day with a televised statement expressing the importance of UXP and encouraging regional officials to support the efforts of municipalities, stating:

The practical approach of the program will speed up the delivery of serviced urban land and thus significantly respond to the dynamic and increasing demand for land.

(NYU Marron Institute of Urban Management 2014)

This did not go unnoticed. For example, Tegared Zerhune, Urban Expansion Team Coordinator from Bahir Dar, specifically said in an interview the next day that ‘The commitment of the Ethiopian government is very high’ when discussing reasons why the initiative was likely to succeed (NYU Marron Institute of Urban Management 2014).

Several key principles and the data behind them were then reviewed by the head of the consultant team:

- The expansion of cities that urban population growth entails cannot be contained. Instead, adequate room must be made to accommodate it
- City densities must remain within a sustainable range. If density is too low, it must be allowed to increase, and if it is too high, it must be allowed to decline
- Strict containment of urban expansion destroys the homes of the poor and puts new housing out of reach for most people. Decent housing for all can be ensured only if urban land is in ample supply
- As cities expand, the necessary land for public streets, public infrastructure networks, and public open spaces must be secured in advance of development

Biru Wolde, City Manager of Hawassa City, summed up his feelings about the need for UXP, saying in an interview after the session, ‘We plan for urban expansion because urban expansion is inevitable.’ This unequivocal statement was representative of the general acceptance of the rationale behind UXP (NYU Marron Institute of Urban Management 2014).

After the presentation of the principles and data, city team leaders each presented their draft urban expansion plans, accompanied by data and an assessment of the challenges of urban development in their city. The presentations received light comments from members of the consultant team and national and regional officials.

Following those presentations, a healthy debate ensued concerning both the strategic principles and design approach. This took place mostly in Amharic, which sidelined many members of the consultant team but created an excellent opportunity for peer-learning: the teams that had embraced the concept most effectively were able to share their insights and vision with colleagues who were, perhaps, uncertain about where they were going.

One consultant team member who spoke Amharic observed that city teams—and political leaders in particular—were seriously considering what would be required to implement their urban expansion plans. She said in an interview the next day:

It’s the first time they are coming out of their box of 5-years planning scope and discussing openly about how their cities will grow.

(NYU Marron Institute of Urban Management 2014)

Later feedback indicated that the response of the consultant team to these issues was critical to acceptance of the urban expansion approach: rather than treating the city teams as passive recipients of knowledge, the consultant team had an ultimate goal of creating local ownership. As such, they saw their role as a convener and supporter of the problem-solving process, and engaged with the city teams as co-creators of solutions to the challenges of implementation. This emphasized that the consultant team, MUDC, regional governments, and cities all had roles to play in solving the problems.

Following in-depth discussions in the workshop sessions, during meals, and in person-to-person meetings with city managers, regional officials, city planning, and support services officials, the following solutions were proposed and agreed upon:

- *Securing the land for expansion:* forecasts of future growth often indicated that the cities would expand beyond their administrative boundaries

To address this, the regional government had the ability to grant planning authority over an enlarged boundary and could work with surrounding local governments to do so. For this to happen, the MUDC needed to ensure that regional authorities understood the need for urban boundaries to be increased. The cities needed to submit requests with new proposed boundaries. When new boundaries were approved by the regions, the cities would need to move quickly to survey the new boundaries and the proposed road rights of ways, working with local citizens to minimize the impact on individual landholders and tenants and quickly paying the legally required compensation for road rights of ways. The cities would have to set aside a budget for those activities in the 2014 Capital Investments Plans

- *Capacity to deliver:* cities, accustomed to consultants preparing their plans, lacked some basic staffing and equipment that would allow them to undertake future planning activities

To address this, the expansion plan proposals to the regions would need to include detailed staffing and equipment requirements linked to specific land-delivery targets. The cities would need to move toward the creation of a larger force of professional, well-paid staff with the skills to manage the added areas and the increasing population

- *Financing:* funds needed to be identified to pay compensation for road rights of ways, construct the arterial grid, and initiate and continue the development of land

To address this, city officials agreed to come up with three- to five-year compensation plans to secure the entire arterial grid. To pay this compensation, it was proposed to create urban expansion revolving funds. The MUDC noted that cities would need to get their property tax systems functioning so that new lands could immediately be assessed and taxed, and this would provide a stream of payments to support future municipal borrowing

The second day of the workshop focused on revising and improving the urban expansion plans presented by the cities on the previous day. City teams and their political leaders sat down together and designed and redrew their draft urban expansion plans with support from the consultant team. The drawing of the draft plans invited the city leadership and technical staff to join together and think deeply about the way the city should grow in future—in other words, it literally demonstrated the feasibility of local government leadership in long-term city planning (Figure 2).



Figure 2: Hawassa city team at work on their plan at the 2013 workshop.

The process of drafting the plans mirrored (in some ways) design-led workshops used to enroll local stakeholders in decision-making whose interests may otherwise be overlooked in the planning process. In this case, the goal was to build capacity in public sector officials (and improve the plan outputs), but given the limited role played by local planners in many developing countries, the intention is similar: to put control into the hands of people better equipped to represent local interests (local public sector officials). The scale of the expansion plans—covering hundreds of square kilometers in some cases—meant that more stakeholder involvement would only come during the surveying of the proposed arterial road network, but the process of drafting the plans was an important step in that direction. The plans the city teams drew became guiding documents and sources of pride for city leaders and technical personnel.

The workshop concluded with participants laying out an action plan for the urban expansion teams, regional bureaus, the ministry, and Marron Institute to complete by September 2013, in consultation and cooperation with the regional bureaus:

- Refine and finalize expansion plans (i.e. more accurate calculation of grids and blocks)
- Delineate new city boundaries
- Create and legalize a document showing the newly delineated boundaries
- Survey the proposed arterial grid, modify in response to feedback from stakeholders on the ground, and calculate real compensation costs
- Start planning the annual area development need (how many macro-blocks to be developed and which ones to develop first)
- Prepare a five-year compensation scheme and create a layer in the expansion map showing the phasing of the development
- Implement institutional changes in the city administration structure in order to provide a conducive institutional set-up and ownership for the program

Interviews conducted at the end of the workshop indicated that participants left energized and with clear awareness of the UXP approach:

The ideas and knowledge I got from this workshop is that it's about securing land, not only [...] making sketches on paper, but we are going to secure those expansion areas.

(Demeke Haile, Professor, Ethiopia Civil Service University;
NYU Marron Institute of Urban Management 2014)

This workshop enables us [...] we plan for the future times.

(Kidu Hailezgie, Urban Expansion Team Coordinator, Mekelle, Ethiopia;
NYU Marron Institute of Urban Management 2014)

3.3 SECOND CITY VISIT

At the conclusion of the workshop the city leadership had accepted the UXP approach enough to be investing some resources in making the urban expansion plans and solving evident challenges, but a second visit to the cities by consultant team in October 2013 found that, with the exception of Mekelle, none had kept to the action plan, and work was below expectations. The information on the second city visit comes from The Ethiopia Urban Expansion Initiative: Trip Report October 8–18 2013 (Martin & Tafesse 2013).

The consultant team found that the underperformance partly resulted from management changes in Adama and Bahir Dar, where new city managers and mayors who were unfamiliar with UXP had taken office. Technical staff were not in a position to fully inform them about the project, and regional urban bureau leaders and MUDC staff had not done so either. Lacking support within the municipal administration, the technical teams in those cities had not been able to dedicate adequate time to the work, and the new leaders had not initiated the negotiation of boundary changes.

The city teams were also facing resource constraints, including a lack of topographical maps, equipment and software shortages, and lack of financial staff to estimate compensation.

Many of these issues were potentially fixable, but to quote the trip report prepared by the consultant team:

The city teams were struggling to think through the steps required to complete an activity [...] but this is a common problem the world over, so the performance of the four cities cannot be singled out for special criticism because of this.

The consultant team took time to brief the new leadership and support presentations of the urban expansion plans and data by the city UXP teams. The presentations and plans impressed the new leadership in both Adama and Bahir Dar and they agreed to continue supporting the work.

This manifested in real progress. By the end of 2013 the regional bureaus approved the necessary boundary expansions requested by the cities (e.g. Figure 3). This positioned the four cities to begin implementing the first stage of their expansion plans by estimating compensation costs, requesting funds to help secure land, and initiating construction of the grid in the immediate expansion area of the city.

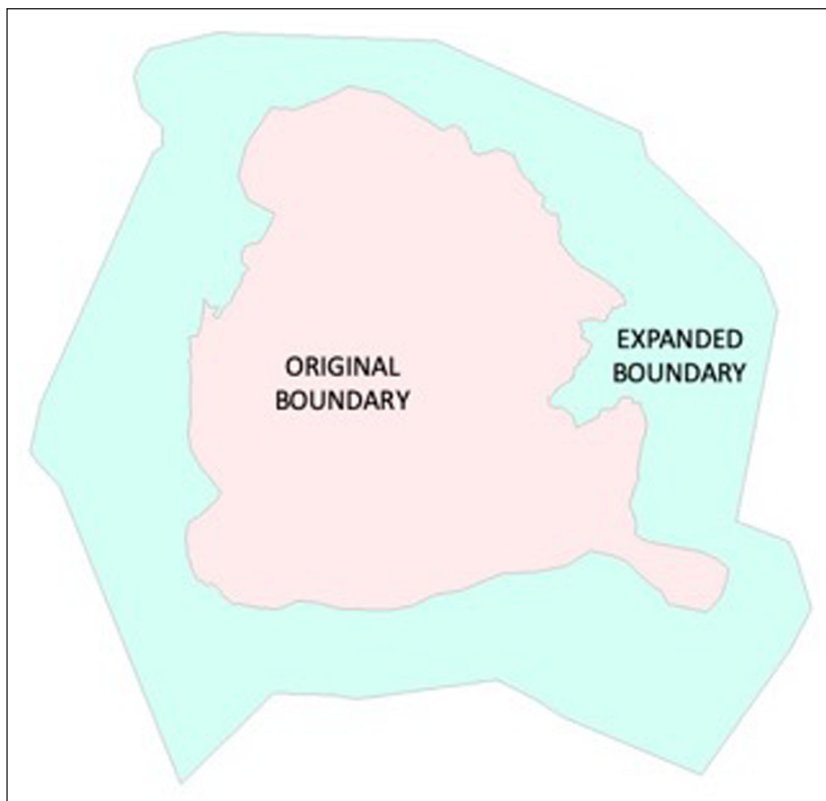


Figure 3: Original and expanded boundary of Mekelle, Ethiopia, in 2014.

The temporary leadership void in Adama and Bahir Dar convinced the consultant team of the need to further institutionalize UXP. To start this process, the consultant team developed a simple manual to guide the preparation and implementation of the plans and help the city teams focus on the key aspects. It included two new tools in the form of spreadsheet templates:

- *Population, land, and housing demand calculations*

The spreadsheet generated the annual percentage growth rate from population data entered for two different years. This rate could then be used to make population projections and housing demand that would be used as the basis for urban expansion. While future population growth rates were subject to change, this proved a very useful tool in establishing

an order of magnitude for the expansion and future land requirements. It allowed for three different projections: below the existing rate, at the existing rate, and above the existing rate, thus allowing some modeling

- *Financial feasibility*

The spreadsheet was a model to test the financial feasibility. It allowed the planners to specify the type of development proposed (e.g. including plot sizes and standard of road construction), grant or subsidy arrangements, and cross-subsidization from commercial and industrial users. From that the model calculated monthly land rentals that would be required to make the system self-financing

The new tools would allow the technical staff to justify and explain estimates of future growth and future costs to new political leaders. Full institutionalization required much more than a manual, but providing the city teams with deep knowledge of this information deepened local ownership and enhanced their capacity to advocate within the municipal administration. Indeed, the projections that emerged from the spreadsheets were quickly incorporated into presentations given by the city urban planning teams (Figure 4).



Figure 4: Draft urban expansion plan of Mekelle, Ethiopia from the 2013 workshop.

Source: Angel et al. (2013b).

The second city visit highlighted the ongoing need for additional knowledge exchange. At the same time, it provided an opportunity to reflect on progress.

Mekelle's urban expansion plan (Figure 5) demonstrates the increased sophistication shown by the cities. The proposed grid is integrated with the existing road network, and although, in principle, each element of the grid would be about 1 km square, environmental features and topography influence the shape and size of the grid quite substantially. Note that this illustration is the plan: there are no other detailed land-use plans.

3.4 CONSOLIDATING LOCAL OWNERSHIP

By February 2014, expansion plans had been:

- finalized in principle, and survey of the arterial grid had either been started or was being planned.

(DeGroot et al. 2014)

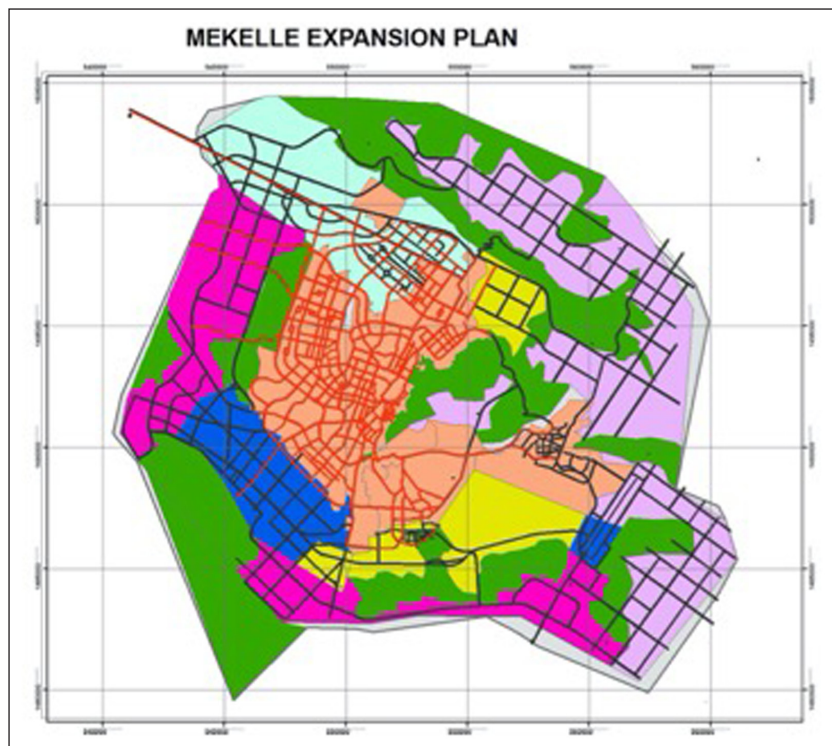


Figure 5: The increasingly sophisticated urban expansion plan of Mekelle, Ethiopia.

Based on this progress, in April 2014, mayors and technical staff from Hawassa and Mekelle were sponsored by the Marron Institute to travel to the World Urban Forum in Medellin, Colombia. They presented their work on UXP alongside federal ministry officials and representatives of Colombian cities facing similar challenges. Exposure on this international stage gave those cities expanded confidence to proceed with their plans and also highlighted the importance of the project to city leaders.

From this observation—with plans completed, boundary expansion approved, and work underway on the ground—it was clear that the knowledge exchange of UXP with the city teams had been a success. Indeed, almost all the progress made in the cities after October 2013 took place with minimal input from the consultant team.

However, while ownership was strong at the city level, among selected regional officials, and within the MUDC urban expansion team, institutionalization of UXP was still weak. No other cities had been trained, and access to UXP training was still only available from the consultant team. Furthermore, UXP existed outside of the national planning legislation. This did not prohibit cities from using the approach, but it raised questions about its long-term sustainability.

A major focus of institutionalization was to create conditions for UXP in Ethiopia to proceed without further support from the Marron Institute. Recognizing that future leadership changes might reduce ownership among political leaders at the municipal, regional, and federal levels, much of the effort was focused on creating an extended cohort of practitioners.

This included the establishment of a new training module on UXP at the Ethiopia Civil Service University in 2014. The module was added to the urban management master's program, ensuring that all graduates would be familiar with the methodology and trained in long-term planning. The course continues to be given and has led to a steady increase in familiarity and acceptance of the methodology.

In the shorter term, in December 2014 the consultant team secured a grant from the Cities Alliance to expand UXP to an additional 14 cities. These were called the Phase II cities (Table 2).

Adama, Hawassa, Bahir Dar, and Mekelle were the capitols of their respective regions. The Phase II cities were chosen from the same regions. Phase II launched in February 2015 with training workshops for the new cities. The Ethiopian Urban Expansion Initiative: Phase II Trip Report: February 20–March 4 2015 states:

CITY	PRESENT POPULATION	POPULATION, 2040	ANNUAL POPULATION GROWTH RATE (%)
Adigat	57,719	288,770	5.00
Axum	63,797	282,304	4.61
Shire	66,268	232,150	3.86
Debrechen	65,231	245,656	4.10
Dessie	220,000	1,100,701	5.00
Gonder	207,044	1,211,696	4.83
Arbaminch	74,879	398,914	5.20
Dilla	107,582	394,999	4.02
Hoseanna	101,849	525,831	5.10
Soddo	76,050	498,025	5.86
Bishoftu	99,928	310,970	3.50
Jimma	120,960	320,826	3.00
Neketeme	84,506	361,181	4.50
Sashemene	190,000	950,606	5.00

Table 2: Phase II cities added to the urban expansion initiative in December 2014.

The model being adopted for Phase 2 differs from that of Phase 1, in that the Regional Urban Development Bureaus will play a more active role in the project. With the support of Phase 1 cities, the project is being extended to at least three additional cities in each region.

(Martin & Tafesse 2015)

The locally led approach proved especially important because some of the issues that had been grasped relatively quickly by the pilot cities were more challenging for the Phase II cities, which were smaller and lacked high-level staff.

The consultant team made a final trip in October 2015, documented in *The Ethiopian Urban Expansion Initiative Phase II Trip Report: October 18–24 2015* (DeGroot *et al.* 2015). At a one-day wrap-up workshop, each Phase II city presented its plans to a group that included Minister Mekuria, the consultant team, regional bureau heads, and the other participating cities. Phase I cities also presented updates on their progress. Bahir Dar was representative, sharing that the city had secured or constructed 69 km of arterial roads since the beginning of the program, but further noting that:

there is still a gap between ‘planned’ and ‘performed’ [...] because [of] lack of finance [and] lack of integration with other responsible stakeholders.

(DeGroot *et al.* 2015)

The workshop participants observed that:

The Urban Expansion Programme [the local term for the initiative] is Ethiopia’s key urbanization strategy.

They called for greater coordination and more regional leadership.

At the end of the Marron Institute’s participation, strong uptake of the core idea was gradually translating into changes on the ground, but there were many challenges. There was a striking similarity between the experiences of all four cities: all were proceeding with piecemeal development that would form part of the expansion area, but the scale and speed of the development was far below the planned rate. In addition, there is no documentation that any cities had taken immediate action to protect environmentally sensitive public open spaces.

4. IMPACT OF URBAN EXPANSION PLANNING

The Urban Expansion Initiative officially ended in early 2016.² At that point participating staff and political leadership were familiar with UXP and its implementation was proceeding with active engagement by all levels of government. The new UXP module at the Ethiopia Civil Service University was training new graduates to manage urban growth, creating a pipeline of professionals.

Nationally, the role of secondary cities and urban expansion was secured by the inclusion of the methodology in the national Growth and Transformation Plan (GTP) II. GTP II envisioned secondary cities helping to springboard the country to low-to-middle-income status by 2025 and allocated considerable responsibility for regionally balanced development to secondary cities. These cities were also expected to accommodate a large share of rural–urban migration, taking pressure off of the capital, Addis Ababa. This positioning differed markedly from the non-specific vision for urban growth in GTP I.

Minister Mekuria was moved to another position in 2016 (Tamiru 2016) and the program lost its main supporter at the national level, though it continues to be part of the curriculum at the Ethiopian Civil Service University. In part due to this loss of support, outcomes in the 14 Phase II cities have never been assessed. In 2017, the MUDC undertook an implementation assessment of UXP in Adama, Hawassa, Bahir Dar, and Mekelle and reported the following:

As of mid-2017, 390.9 km of roads have been constructed in Bahir Dar, 163.3 km in Hawassa, 9 km in Mekelle and 7.7 km in Adama. A total of 570.9 km of roads (mainly dirt, but in some cases gravel and asphalt) was completed under the UXI [Urban Expansion Initiative] in three years. These roads were partly paid for using city resources, including tax revenue and conditional transfers, with additional funds coming from the regional bureaus.

(Federal Democratic Republic of Ethiopia (FDRE) 2017)

The report also found that, by 2017, cities had earned significant revenues from land leasing in the new areas: on the order of US\$77 million. Cities with low performance had seen these funds captured by regional governments rather than reinvested into UXP, which explained why resources continued to fall short. This occurred despite federal regulations requiring reinvestment of lease revenues, and was symptomatic of the main challenge in building country ownership: UXP was readily absorbed by personnel—whether political leaders or technical staff—trained by the consultant team. But when leadership changed (a frequent occurrence in Ethiopia), technical staff struggled to transmit knowledge of the approach to their new bosses.

The implementation assessment report concluded:

It has been only four years since the beginning of the program. All cities except Adama invested huge sum of many for construction of arterial roads and to pay compensations in the expansion areas as outlined by this program. Considering the limited financial, technical, execution and other capacities of the City administrations, we conclude that the cities performance in this aspect is very encouraging and commendable.

(FDRE 2017)

In 2020, a follow-up video on the Urban Expansion Initiative was produced that included interviews with city planning staff, several of whom had participated between 2013 and 2016 (NYU Marron Institute of Urban Management 2020).

Annemaw Mekonnen, who in 2013 was a planner on the urban expansion team of Bahir Dar, was by 2020 the deputy city manager. When interviewed, he said:

We did not need external consultants or contracts to prepare the expansion plan. This is a plan prepared by our own planners, surveyors and GIS [geographic information system] experts. Urban expansion plans helped us to plan the development of our city ahead.

(NYU Marron Institute of Urban Management 2014)

Biru Wolde, City Manager of Hawassa in 2013 and quoted previously, and by 2020 the president of the regional industrial parks development corporation, said:

If we did not have an urban expansion plan, the land would have been occupied by illegal settlement and squatters [...] the expansion plan enabled Hawassa to be led by a plan.

(NYU Marron Institute of Urban Management 2014)

In 2022, the Cities Alliance financed an investigation into the impact of UXP that included an assessment of Adama, which struggled with frequent changes in political leadership. The investigation concluded that:

The local planning staff continued to see the relevance of the approach and [...] incorporated elements of the urban expansion plan into their structure plan.

The investigators concluded that slightly less than 50% of new roads proposed in the structure plan—a document prepared seven years after the Adama planning staff received training in UXP—were taken directly from the city's Urban Expansion Plan (Lamson-Hall *et al.* 2022).

5. CONCLUSIONS

The results of the activities of the consultant team in Ethiopia—hundreds of kilometers of arterial roads constructed, millions of dollars of local funding mobilized, growth into a national initiative, and continued enthusiasm for the approach by practitioners years after the conclusion of the intervention by the Marron Institute—go far beyond what would typically be expected from the work of a five-person consulting team that only organized two major workshops and six city visits over three years.

Based on the narrative of the program, three reasons appear to have contributed to the success of the project. First, the introduction of the methodology into the country started by gaining support at the top, in alignment with local political realities. Second, the methodology itself was simple and addressed real problems facing Ethiopian cities with solutions and explanatory concepts that both political leaders and technical staff could easily engage with. Third, the emphasis on real actions by officials at the national, regional, and local levels leveraged the simplified methodology and the top-level political engage to create strong local ownership among participants.

The consultant team entered Ethiopia with the hypothesis that that national, regional, and local government officials could work together to draw, approve, and implement their own plans for managing urban expansion. They created an approach that considered local capacity and local political reality. Their belief was that a plan created in such a way would have a high likelihood of implementation.

This belief was partially correct. Despite efforts to create a planning methodology that could be fully implemented by local planning staff, some elements of UXP remained beyond their capacity at the time. The timeline to acquire arterial road rights of ways was overly optimistic given funding and staffing levels. Given the limited ability of the cities to fully enact the core UXP activity, the protection of environmentally sensitive public open spaces received little attention. Full institutionalization remained elusive, though the introduction of the urban expansion module at the Ethiopian Civil Service University continues to have an impact.

NOTES

- 1 From conversations in June 2022 with Biru Wolde, Director General of Ethiopian Enterprise Development.
- 2 Informal check-ins continue to take place under other programs and projects that bring Marron Institute personnel to Ethiopia.

The authors thank the consultant team which consisted of Shlomo Angel, David DeGroot, Richard Martin, Tsigereda Tafessa, and Patrick Lamson-Hall.

AUTHOR AFFILIATIONS

Patrick Lamson-Hall  orcid.org/0000-0002-4573-9568

Marron Institute of Urban Management, New York University, New York, NY, US

Richard Martin

Unaffiliated consultant, KE

COMPETING INTERESTS

The authors were involved in the project described in the paper and were co-authors of many of the reports used in documenting the initiative.

DATA AVAILABILITY

This article draws on field reports, recorded interviews, and the documentation of the professionals conducting the capacity-building that included knowledge exchange. These materials were not intended for publication, but can be made available by request at the discretion of the authors.

REFERENCES

- Abiko, A., de Azevedo Cardoso, L. R., Rinaldelli, R., & Haga, H. C. R.** (2007). Basic costs of slum upgrading in Brazil. *Global Urban Development Magazine*, 3(1), 121–131. https://www.researchgate.net/profile/Alex-Abiko/publication/242117681_BASIC_COSTS_OF_SLUM_UPGRADING_IN_BRAZIL/links/02e7e53bdc2cf41bde000000/BASIC-COSTS-OF-SLUM-UPGRADING-IN-BRAZIL.pdf
- Amare, M., Arndt, C., Abay, K. A., & Benson, T.** (2020). Urbanization and child nutritional outcomes. *World Bank Economic Review*, 34(1), 63–74. DOI: <https://doi.org/10.1093/wber/lhy015>
- Angel, S.** (2008). An arterial grid of dirt roads. *Cities*, 25(3), 146–162. DOI: <https://doi.org/10.1016/j.cities.2008.03.005>
- Angel, S., Blei, A. M., Civco, D. L., & Parent, J.** (2012). *Atlas of urban expansion*. Lincoln Institute of Land Policy.
- Angel, S., Blei, A. M., Parent, J., Lamson-Hall, P., Galarza-Sanchez, N., Civco, D. L., & Thom, K.** (2016). *Atlas of urban expansion—2016 edition*. The NYU Urbanization Project.
- Angel, S., DeGroot, D., Martin, R., Fisseha, Y., & Tafesse, T.** (2013a). The Ethiopia Urban Expansion Initiative: Interim report 1 (Unpublished Report). NYU Marron Institute of Urban Management.
- Angel, S., DeGroot, D., Martin, R., Fisseha, Y., Tafesse, T., & Lamson-Hall, P.** (2013b). The Ethiopia Urban Expansion Initiative: Interim report 2 (Unpublished Report). NYU Marron Institute of Urban Management.
- Angel, S., Parent, J., Civco, D. L., Blei, A., & Potere, D.** (2011). The dimensions of global urban expansion: Estimates and projections for all countries, 2000–2050. *Progress in Planning*, 75(2), 53–107. DOI: <https://doi.org/10.1016/j.progress.2011.04.001>
- Bertinelli, L., & Zou, B.** (2008). Does urbanization foster human capital accumulation? *Journal of Developing Areas*, 41(2), 171–184. <https://muse.jhu.edu/article/231974>. DOI: <https://doi.org/10.1353/jda.2008.0020>
- Chanda Davies, M. M.** (2014, 28 November). Lusaka Council nods KM319 budget. *Times of Zambia*. <https://www.times.co.zm/?p=43752>
- Chaudhuri, S., & Roy, M.** (2017). Rural–urban spatial inequality in water and sanitation facilities in India: A cross-sectional study from household to national level. *Applied Geography*, 85, 27–38. DOI: <https://doi.org/10.1016/j.apgeog.2017.05.003>
- Chiwele, D., Lamson-Hall, P., & Wani, S.** (2022). *Informal settlements in Lusaka* (Policy Brief). International Growth Centre and UN-Habitat. <https://www.theigc.org/publication/informal-settlements-in-lusaka/>
- DeGroot, D., Martin, R., & Tafesse, T.** (2014). The Ethiopia Urban Expansion Initiative: Phase II trip report, December 1–13, 2014 (Unpublished Report). NYU Marron Institute of Urban Management.
- DeGroot, D., Martin, R., & Tafesse, T.** (2015). The Ethiopian Urban Expansion Initiative: Phase II, October 18–24, 2015 (Unpublished Report). NYU Marron Institute of Urban Management.

- Dube, E. E.** (2013). Urban planning & land management challenges in emerging towns of Ethiopia: The case of Arba Minch. *Journal of Urban and Environmental Engineering*, 7(2), 340–348. DOI: <https://doi.org/10.4090/juee.2013.v7n2.340348>
- FDRE.** (2017). The Federal Democratic Republic of Ethiopia Urban Expansion Development Plan Program. Implementation assessment report in case of Bahr Dar, Mekelle, Hawassa and Adama cities (Unpublished Report). Federal Democratic Republic of Ethiopia (FDRE), Ministry of Urban Development and Construction (MUDC).
- Ghosh, R. N., & Roy, K. C.** (1997). The changing status of women in India: Impact of urbanization and development. *International Journal of Social Economics*, 24, 902–917. DOI: <https://doi.org/10.1108/03068299710178937>
- Henderson, J. V.** (2010). Cities and development. *Journal of Regional Science*, 50(1), 515–540. DOI: <https://doi.org/10.1111/j.1467-9787.2009.00636.x>
- JICA Study Team.** (2009). *The study on comprehensive urban development plan for the city of Lusaka in The Republic of Zambia draft final report—Summary*. KRI International Corp. & Japan International Cooperation Agency (JICA). http://open_jicareport.jica.go.jp/pdf/11932878.pdf
- Lamson-Hall, P.** (2014). 30 Cities from 200 years ago ... and where they are now (Blog Post). Marron Institute of Urban Management. <https://marroninstitute.nyu.edu/blog/30-cities-from-200-years-agoand-where-they-are-now>
- Lamson-Hall, P., Angel, S., DeGroot, D., Martin, R., & Tafesse, T.** (2019). A new plan for African cities: The Ethiopia urban expansion initiative. *Urban Studies*, 56(6), 1234–1249. DOI: <https://doi.org/10.1177/0042098018757601>
- Lamson-Hall, P., Angel, S., & Tafesse, T.** (2022). *Managing migration and urban expansion in secondary cities* (Cities Alliance Cities and Migration Programme Flagship Report). Cities Alliance/UNOPS. https://www.citiesalliance.org/sites/default/files/2022-06/citiesalliance_managingmigration_and_urban_expansion_2022_0.pdf
- Leon, D. A.** (2008). Cities, urbanization and health. *International Journal of Epidemiology*, 37(1), 4–8. DOI: <https://doi.org/10.1093/ije/dym271>
- Lépoire, E. S. M., & Simpson, S.** (2018). Concentrated poverty and neighbourhood effects: Youth marginalisation in Buenos Aires' informal settlements. *Oxford Development Studies*, 46(1), 28–44. DOI: <https://doi.org/10.1080/13600818.2017.1357690>
- Mackinnon, D.** (2015). Splintering labour markets. In R. Paddison & T. Hutton (Eds.), *Cities and economic change: Restructuring and dislocation in the Global Metropolis* (pp. 93–107). SAGE.
- Martin, R., & Tafesse, T.** (2013). The Ethiopia Urban Expansion Initiative trip report, October 8–18, 2013 (Unpublished Report). NYU Marron Institute of Urban Management.
- Martin, R., & Tafesse, T.** (2015). Ethiopian Urban Expansion Initiative: Phase II trip report, February 20–March 4, 2015 (Unpublished Report). NYU Marron Institute of Urban Management.
- MFED.** (2010). *Ethiopia Growth and Transformation Plan 2010/11–2014/5*. Ministry of Finance and Economic Development (MFED), Federal Democratic Republic of Ethiopia (FDRE). <https://rise.esmap.org/data/files/library/ethiopia/Ethiopia%20Growth%20and%20Transformation%20Plan%20I.pdf>
- Moretti, E.** (2004). Human capital externalities in cities. In J. F. Thisse & J. V. Henderson (Eds.), *Handbook of urban and regional economics, 2004* (Vol. 4, pp. 2243–2291). Elsevier. DOI: [https://doi.org/10.1016/S1574-0080\(04\)80008-7](https://doi.org/10.1016/S1574-0080(04)80008-7)
- Napier, M.** (2007). *Informal settlement integration, the environment and sustainable livelihoods in Sub-Saharan Africa*. Council for Scientific & Industrial Research in South Africa. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.557.7881&rep=rep1&type=pdf>
- NYU Marron Institute of Urban Management.** (2013). The Ethiopia Urban Expansion Initiative. Proposed collaboration on a municipal action program (Unpublished Report). NYU Marron Institute of Urban Management.
- NYU Marron Institute of Urban Management.** (2014, April 5). Urban expansion: On the ground in Ethiopia (Video). *YouTube*. <https://www.youtube.com/watch?v=XQ7kUhTxJOM>
- NYU Marron Institute of Urban Management.** (2020, September 23). How they do it in Ethiopia: Making room for urban growth (Video). *YouTube*. <https://www.youtube.com/watch?v=uGP1hALxkrE>
- Ozlu, M. O., Alemayehu, A., Mukim, M., Lall, S. V., Kerr, O. T., Kaganova, O., ... & Gebretsadik, S. Z.** (2015). *Ethiopia-urbanization review: Urban institutions for a middle-income Ethiopia* (No. 100238). World Bank. <https://data.landportal.info/library/resources/ethiopia-urbanization-review-urban-institutions-middle-income-ethiopia>
- Parby, J. I., Lozano Gracia, N., Mason, D., Lall, S. V., Dasgupta, B., & Young, C.** (2015). *Stocktaking of the housing sector in Sub-Saharan Africa: Challenges and opportunities* (No. AUS7243). World Bank. <https://openknowledge.worldbank.org/handle/10986/23358>

- Satterthwaite, D., Archer, D., Colenbrander, S., Dodman, D., Hardoy, J., Mitlin, D., & Patel, S.** (2020). Building resilience to climate change in informal settlements. *One Earth*, 2(2), 143–156. DOI: <https://doi.org/10.1016/j.oneear.2020.02.002>
- Shatkin, G.** (2004). Planning to forget: Informal settlements as ‘forgotten places’ in globalising Metro Manila. *Urban studies*, 41(12), 2469–2484. DOI: <https://doi.org/10.1080/00420980412331297636>
- Seto, K. C., Fragkias, M., Güneralp, B., & Reilly, M. K.** (2011). A meta-analysis of global urban land expansion. *PLoS ONE*, 6(8), e23777. DOI: <https://doi.org/10.1371/journal.pone.0023777>
- Watson, V.** (2009). Seeing from the South: Refocusing urban planning on the globe’s central urban issues. *Urban Studies*, 46(11), 2259–2275. DOI: <https://doi.org/10.1177/0042098009342598>

TO CITE THIS ARTICLE:

Lamson-Hall, P., & Martin, R. (2022). The Ethiopia Urban Expansion Initiative and knowledge exchange. *Buildings and Cities*, 3(1), pp. 772–791. DOI: <https://doi.org/10.5334/bc.247>

Submitted: 25 April 2022

Accepted: 09 September 2022

Published: 07 October 2022

COPYRIGHT:

© 2022 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See <http://creativecommons.org/licenses/by/4.0/>.

Buildings and Cities is a peer-reviewed open access journal published by Ubiquity Press.

