

Freetown

Options for Growth and Resilience

URBAN SECTOR REVIEW



WORLD BANK GROUP

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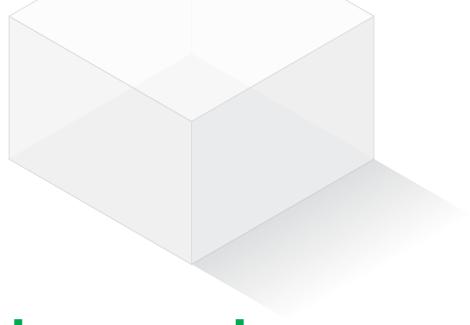


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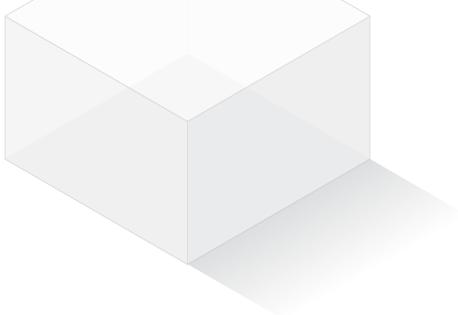
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Executive summary

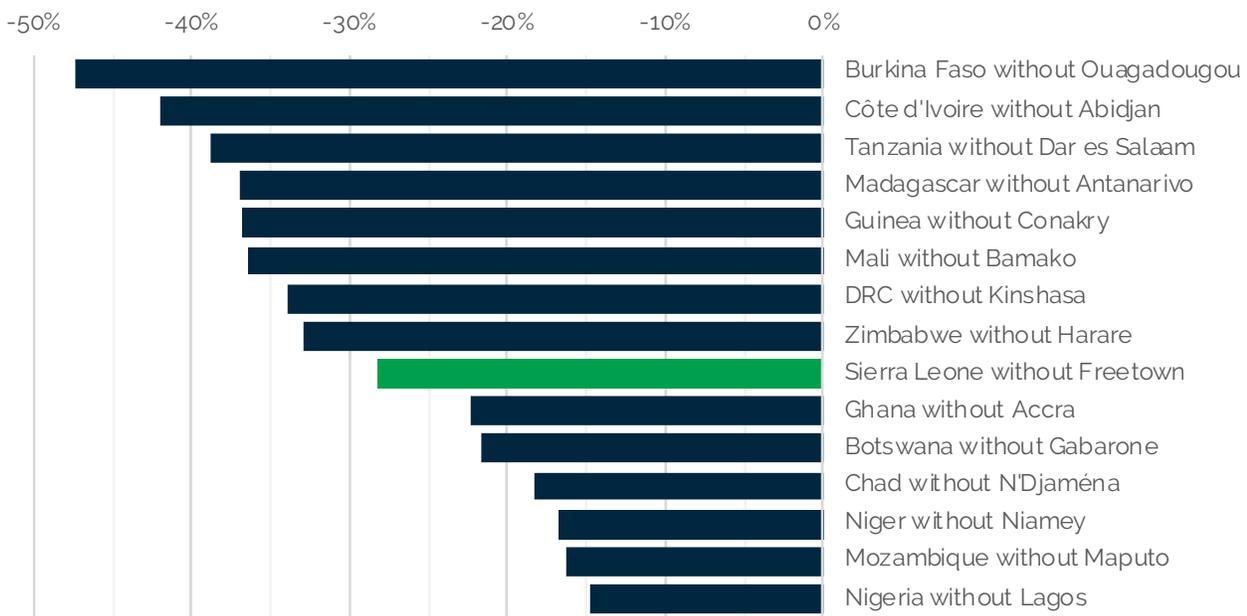
Urbanization offers great economic opportunities, yet if not managed effectively cities and their people can succumb to the growing threat of natural hazards. Cities are where economic development happens. In the West, and more recently in East Asian ‘growth miracles’, millions have been lifted out of poverty through an urban structural transformation - agricultural labor moving into high productivity jobs in urban manufacturing and services. No country has ever reached middle-income status without urbanizing. The tremendous power of cities to drive productivity growth stems from agglomeration - the clustering of businesses and individuals in an environment that promotes scale and specialization. However, with agglomeration, comes the potential for increased vulnerability to natural hazards. When storms, earthquakes, floods and tsunamis occur in urban areas, the large concentration of people and assets tends to increase their impact. Since cities are attractive to people and firms, urban hazard risks cannot be eliminated, but they can be mitigated, if cities are managed effectively.

This study focuses on Freetown, the capital of Sierra Leone, which dominates the country’s urban landscape. Freetown’s recent growth is remarkable. The city’s population has increased roughly 10-fold in the last 50 years¹; for similarly-sized European cities it took 150 years to achieve this increase. Freetown is also the nerve center of the Sierra Leone economy. If the city was removed, Sierra Leone would lose 28% of GDP - see Figure 1. Thus, ensuring Freetown’s effective management is of national importance. The growth and importance of Freetown is expected to increase. Freetown is projected to welcome more than 535,000 residents in the next decade. This growth can’t be stemmed. Even if the capital was moved outside of Freetown, international experience suggests that people would still gravitate toward Freetown, given its central role in Sierra Leone’s economy.

¹ Statistics Sierra Leone, ‘Sierra Leone 2015 Housing and Population Census: National Analytical Report’ (SSL, 2017).

Policy choices made now will determine whether Freetown becomes an engine or an obstacle for economic transformation in Sierra Leone. At its best, Freetown could provide a hub for West African exports, and a platform for Sierra Leone’s young and rising middle-class to form productive industrial clusters. At its worst, it risks being a congested bottleneck that fails to generate jobs and keeps Sierra Leone closed to the global economy. The focus of this study is to understand the scale of Freetown’s problems, to identify the extent to which local government can act to tackle these problems, to provide options within the city for ameliorating the multitude of issues linked to the built-up environment, and finally, to identify ways in which the underlying impediments could be addressed. With a new, energized, mayor coming in to take over the city’s reins, this study hopes to provide her and her new administration with concrete advice on areas of focus for policy dialogue and a much-needed roadmap in the dialogue between local and central authorities.

Figure 1. Reduction in gross GDP if the capital was removed (% of GDP)



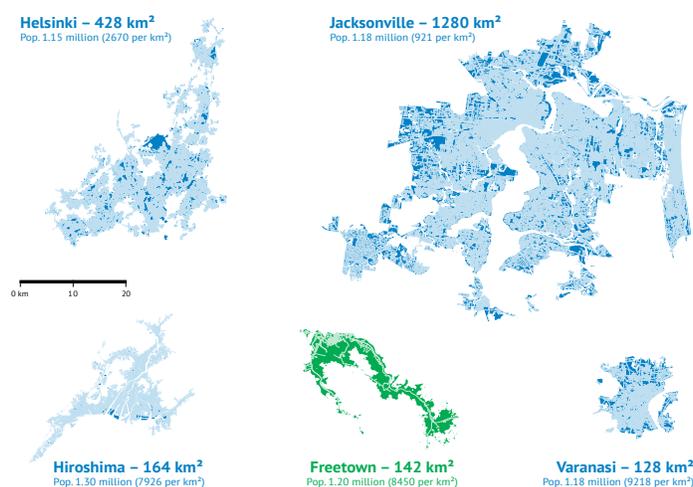
Source: Oxford Economics

What are Freetown's main urban challenges?

Despite the Freetown's national importance, the city has become crowded, underserved and vulnerable to natural hazards. For its population size, Freetown is one of the most crowded cities in the world. The city has a population density (8,450 persons per km²) which is similar to Hiroshima and Varanasi (whose population density is 7926 per km² and 9218 per km² respectively - see Figure 2). However, Freetown's growth has not been evenly spread. Rather, population densities vary enormously (Figure 3) and the city has become fragmented. Freetown's urban expansion has been characterized by leapfrog development, i.e. construction on unbuilt plots not bordering existing development. Between 1975 and 2015, approximately 80% of the city's urban expansion was towards the center of the peninsula and along the road towards Hastings and Waterloo. In comparison, only 3% of the city's expansion can be characterized as infill development, i.e. construction on unbuilt plots, surrounded by existing development.

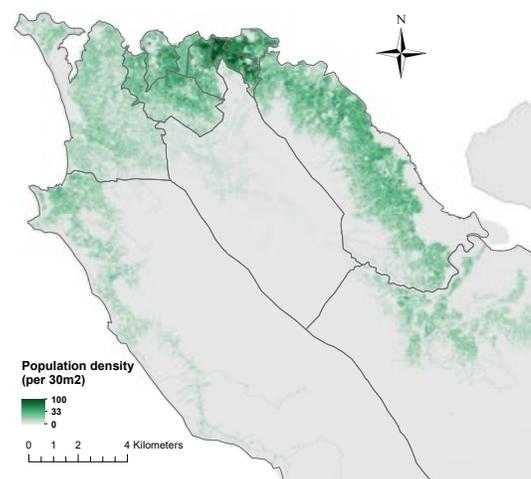
Not only has Freetown's expansion resulted in a fragmented urban form, the city struggles to provide affordable housing. This in turn has resulted in the proliferation of informal slums. Rental prices in Freetown have increased at rates faster than inflation rates, negatively affecting housing affordability. Many urban dwellers in Freetown have been priced out of the formal property market. Uncontrolled urban expansion and the lack of affordable housing has also led to an inefficient allocation of land within the city, characterized by the proliferation of slums near the city center. The monetary loss due to low and stagnant land prices in slum areas could equal almost US\$ 58 million. Importantly, many of Freetown's slums are in areas prone to environmental risk which further discourages investments, increasing environmental risks for the city's most vulnerable. Freetown's expansion has resulted in a fragmented urban form, which is crowded but

Figure 2. Urban Footprint Comparison



Source: OpenStreetMap, JAXA (Hiroshima), FDEP Open Data (Jacksonville)

Figure 3. Population Density



Source: OSM building data, World Bank (2018)¹ classification, 2015 Sierra Leone Census

not compact. This kind of urban growth pushes up costs and lowers the efficiency of infrastructure investments and service delivery.

Freetown also struggles to provide adequate services to its citizens. Access to public services in Freetown is very limited and coverage is systematically below Sub-Saharan standards in urban areas. While access to electricity is slightly under regional urban areas average, there are significant gaps in terms of access to potable water and sanitation. Only 75% of Freetown’s inhabitants have access to an improved water source compared to more than 86% on average in Sub-Saharan urban areas. Similarly, the city lags the regional average for urban areas in terms of access to improved sanitation with only 30% of the population of households with access to improved sanitation compared to 40% regionally. A key feature of services in Freetown is that they are not evenly spread across the city. The city center and the western part of the city systematically display higher access levels than the eastern area. While access to education and health facilities differs significantly, there remain pockets of low accessibility near the city center. In addition, effective solid waste management in Freetown is a major challenge. The lack of efficient collection services contributes significantly to flood risk, with discarded waste blocking drainage channels. The lack of urban services directly impacts livability (for households) and productivity (for firms) in Freetown.

Finally, Freetown is, and will likely remain, affected by natural disasters given its geographic location but also because of its urban form.

Due to its topography, the Freetown peninsula is highly exposed to landslides and floods. While the 2017 landslides were tragic, flooding is a more common hazard in Freetown than large-scale landslides, and regularly affects parts of Freetown during the rainy season. Annual average losses from flood damage are as high as US\$ 2.5m a year³. The carrying capacity of the existing storm water drainage system is constrained due to unplanned development in natural waterways and because solid waste clogs the waterways. But the impact of a major disaster in Freetown, like the 2017 landslide and flooding when precipitation levels were 300% higher than normal, can be devastating with over 1,000 people dead or missing. The economic impact of the event was estimated to be over US\$ 30 million⁴. While geography plays an important role, the city’s form is also an important factor. Approximately 38% of the built-up expansion has taken place in either medium or high-risk areas. Compared to other African capital cities, a spectacular share of built up area in Freetown is located on either steep slopes or below sea level. Though laws exist to prevent illegal construction in high-risk areas, these are often circumvented through bribes or ignored for informal development. Therefore, over the years, more and more households have settled in high-risk areas due to lack of urban planning, low housing supply and high prices.

2 World Bank (2018). Sierra Leone Multi-City Hazard Review and Risk Assessment: Freetown City and Hazard Risk Assessment

3 World Bank (2018). Sierra Leone Multi-City Hazard Review and Risk Assessment: Freetown City and Hazard Risk Assessment

4 World Bank (2017). Rapid damage and Loss Assessment of August 14th, 2017 landslides and floods in the Western Area

What factors are driving these challenges?

Dysfunctional land markets help explain the challenges which Freetown is encountering with its urban form. For a city to generate productive clusters of activity and to densify safely, land rights need to be both secure and marketable. Land rights in Freetown are often insecure and extremely difficult to transact, even compared to elsewhere in Sub-Saharan Africa. This is due to a lack of clear ownership records, and weak formal governance systems. A lack of clarity over ownership means firms and investors operate in constant fear of a counter-claim over land that they own, or land they are about to purchase. This fear is not unwarranted; 50% of all court cases in Sierra Leone's lower courts relate to land disputes⁵. This is largely because land records are both corruptible and incomplete, with only 40% of the city's land titled⁶. The result is a loss of security and marketability. Inefficient administrative systems inhibit marketability. Although the recent Land Registration System Project has significantly reduced the time needed to register a property from 235 days in 2008 to under 20 currently, property transfer is still a highly expensive process (11% of property value compared to 8% on average for the region) which drives residents into making informal transactions. In 2006, there were only 200 registered property transactions in Freetown⁷.

The Freetown City Council (FCC) is in a weak financial position to be able to make much-needed urban investments. Investments in capital and operational expenditures in the city are very low. The combined identifiable infrastructure expenditure (operating and capital expenditure) by Freetown City Council was US\$ 1.24 per capita in 2016. Figure 4 provides a comparison of this figure to other capital cities and Figure 5 provides a comparison by income tier. Freetown's budgets typically contain a high proportion of staffing compensation (20%) and around 71% percent of the budget goes recurrent and maintenance costs of existing assets, while only 10% of the budget goes towards capital expenditures. FCC's total revenues have only increased marginally (8%) over the past four years. These increases have been led by some improvements in own-source revenue, which increased by 23% over four years - this is largely connected to increase returns from property rates which at their peak contributed 65% of own-source revenues in 2015. For the city to be able to invest in city-wide improvements, it is crucial for FCC to increase and improve its revenue streams. Since not enough is being put into capital investments in the city, it stands to reason that the coping costs have be borne by households – especially so for risks related to disasters.

Institutionally, long-term and enforced planning of Freetown's expansion has been neglected. Sadly, urban planning in the city has fallen victim to unclear and constrained mandates. Currently FCC's regulatory authority for urban planning and land management is constrained. While these functions are meant to be devolved, they are still held at the ministry level. Crucially, FCC's capability

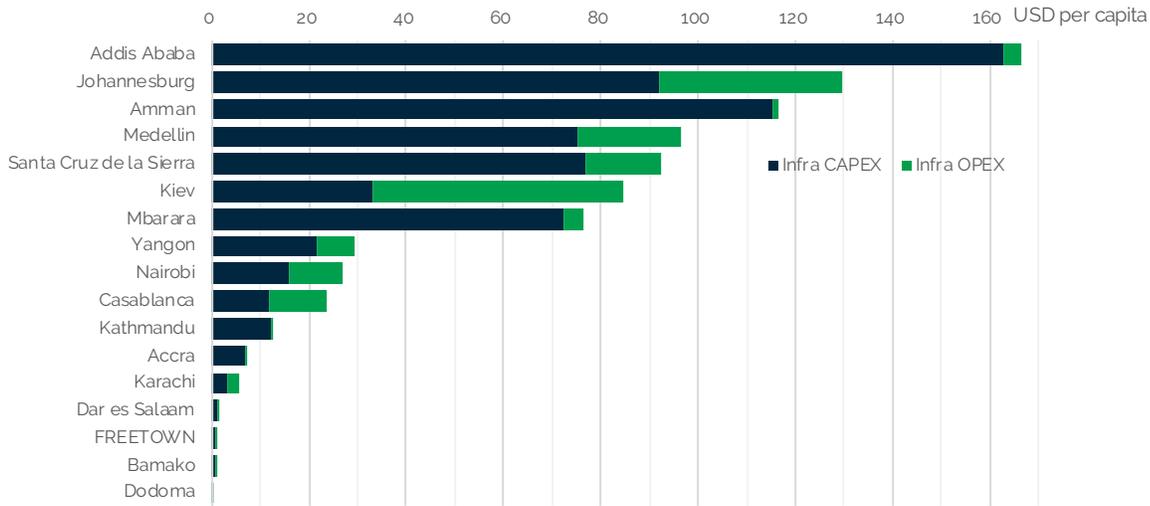
5 Ministry of Lands, Country Planning and the Environment (2015), "Final National Land Policy of Sierra Leone", The Government of Sierra Leone

6 2014 Sierra Leone Labour Force Survey

7 Williams, S. and Oredola-Davies, P. (2006) 'Land and pro-poor change in Sierra Leone: Scoping Study', prepared for joint EU-DFID Country Assistance Plan for Sierra Leone, July 2006.

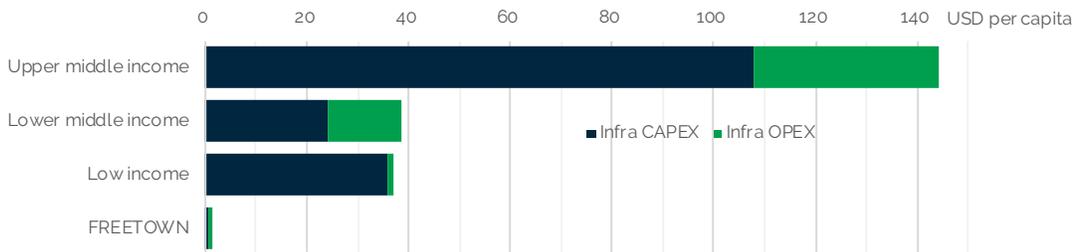
to provide these functions is questionable, however many of the most important urban functions including zoning and planning approvals are not functioning. Furthermore, there is currently a lack of risk reduction measures influencing government policies. Given that Freetown is under constant environmental risks, there lack of a focus on preventative measures to manage this risk.

Figure 4. Infrastructure investments by Freetown and comparators



Source: Yu Lu: City-level capital and operational expenditures for infrastructure, benchmarking for Bamako (2017); Freetown City Council 2016 budget summary

Figure 5. Infrastructure investments per capita by Freetown compared to peers



Source: Yu Lu: City-level capital and operational expenditures for infrastructure, benchmarking for Bamako (2017). Freetown City Council 2016 budget summary

What can be done?

Freetown is growing rapidly but is not delivering its potential. Purposeful and bold policy is needed from the incoming government. Despite its challenges, Freetown is Sierra Leone's most important city. However, the city is currently on a dangerous trajectory. It is neither delivering on its economic potential nor is it providing its citizens the services they expect. Crucially, the city is not managing its growth, and environmental risks. Crippling floods and landslides are, and will continue to be, a constant threat. Urbanization is critically dependent upon good public policies. Leaving the process to individual households and firms, which has been the case for the past 60 years, dooms the city to failure. If density continues to be achieved merely by crowding, the city will become unlivable with further high-profile disasters. This review details the key drivers to Freetown's urban challenges and how equipped the city is to address them. The review recommends the following three key areas for policy reforms (*see detailed summary within Table 1 below*).

Reform land-use and invest in infrastructure

Currently, land is not being used effectively in Freetown; instead of generating productive clusters of activity, the city continues to sprawl outwards through informal settlement. This dysfunctional process is due to the lack of clear land rights. For a city to generate productive clusters of activity, land rights need to be both secure and marketable. Doing this is probably the single most important economic policy for the new Government. Secure land rights enable owners to make substantial and long-lasting property investments. Without security of ownership, commercial property investments are often not made, and residential investments are only made in temporary, single-story structures.

Active investment in enhancing density in the city will need to be accompanied by supporting infrastructure and enforceable land use regulations. Given the pressing service delivery needs but limited public purse, partnering with or facilitating entry of private enterprises is one way to address the challenge. Private sector presence is often readily available for middle and upper income neighbourhoods, but the challenge has been in getting their presence in poorer and more-risky neighbourhoods. However, across Africa, in low-income areas where frequently public infrastructure services are absent and rather costly to install due to existing density, social enterprises have developed decentralized business solutions that help address these service needs and with the additional benefit of creating much needed jobs in the community.

Policy makers, at both local and national levels, should also engage in long-term planning for the capital city, its function and its future urban expansion. Policymakers in Sierra Leone currently face the decision of whether to build on and around Freetown, or to focus policy on setting up a new administrative capital city near Mamamah airport. Both options deserve serious consideration; each sends a strong signal about the future of the country, and both require significant and long-lasting investments.,

Strengthen city finances and invest in city capability

Freetown City Council needs to improve its fiscal scope to deliver key investments and manage environmental risk and growing density. Increased grant assistance from central government is uncertain and outside the city council's realm of influence. FCC must leverage its own financial scope further by improving its property taxation system. Sustainable council finances are crucial if the council is to invest in an environmentally sustainable future for Freetown. FCC as the local government of Sierra Leone's largest city, has untapped own-source revenue potential. Effective tax reform is a difficult task for all municipalities, but not impossible.

Increase valuation in Western wards. Analysis combining FCC's valuation database and Sierra Leone's most recent census, identified the Western wards as a key area wherein coverage of valuation could be expanded. While similar data was not available for commercial properties, it is likely that FCC's valuation process has yet to address the growing economic activity in Aberdeen and areas west of Congo cross. In the long-term, the quality of FCC's valuation database will need to be improved. A re-assessment of valuation should be conducted alongside Ministry of Lands, Country Planning and the Environment's (henceforth referred to as MoL) investments in renewing Freetown's cadaster system.

Strengthen communication, enforcement and analysis of arrears. The analysis decomposed non-compliance into smaller groups and found that separate policy actions could help improve compliance. Tax expenditure communication will be crucial going forward, to convince those in Freetown who could pay property tax but don't. These communication efforts should focus on the legitimacy of the council, its recent reforms and the effort it is making to address citizens' concerns. Taxation enforcement needs to be enhanced to reduce the number of people exploiting the system, which is weak. Currently, the Council has not employed any of the legislative and legal powers given to it to enforce compliance. The issuance of more warrants is an easy first step to revitalize FCC's enforcement agenda. Finally, arrears are potentially pushing more people into a position which they have no ability to pay their tax. FCC is legally unable to wipe arrears, however after the Council digitizes its arrear information, it will be important to analyze more fully the arrear data and adjust policies to avoid long-term arrear debt.

Clarify planning mandates and build-in resilience into urban strategy

Freetown's unique position as Sierra Leone's capital city and economic center has meant that its decentralization process is unique and politically complex. This has led to many unclear mandates. An example of these unclear mandates is FCC's urban planning functions. These functions include responsibility for the regulatory framework for land use. Urban planning is a powerful force which is crucial for cities to reach their potential and mitigate environmental hazards.

Tie development planning more closely to FCC expenditure. Research suggested that central ministries refrained from devolving key urban planning functions to FCC since there remained concerns around a lack of capacity. FCC's performance with its development planning is a case in point. While the plan itself is adequate and used best practice community engagement in its development, it has had little impact in directing FCC's budget. Crucially while the plan has a mon-

itoring and evaluation framework, none of the plan's indicators have been measured. If FCC is to be seen in the future as a crucial stakeholder in Freetown's planning, it must demonstrate regulatory capabilities first in its development planning functions.

Create a working group tasked with urban planning and regulatory authority over land use in Freetown. Currently, land-use zoning is not conducted for Freetown. This has led to a disorganized urban form which is at constant risk of environmental degradation. FCC currently does not have a seat at the table when it comes to urban planning in Freetown. As the local government, with the greatest revenue incentive to see Freetown urban planning regulated, it is important the council eventually take a leadership role. However, concerns of low capabilities are warranted. As an intermediate step, it is recommended that the central government creating a working group to begin to regulate land use in the capital. This working group should include key technical stakeholders in specific ministries including Ministry of Lands and Ministry of Works, with FCC chairing the work.

Table 1: Summary of Recommendations

	Short-term (1 year)	Medium-term (4 -years)	Long-term (8+ years)
Reform land-use and invest in infrastructure	Inventory public land, buildings and infrastructure	Formalize and effectively administer land administration and construction permitting (including registration, survey, demarcation and transactions)	Engage in long-term planning for the capital city, its function and its future urban expansion
	Assess investment needs and identify of potential sources of investment funds, including for own-source revenue and private capital mobilization	Symbolic investments in the capital city can signal a future of productive investment and growth.	
	Explore potential for urban services to be provided through social enterprises		
Strengthen city finances and invest in city capability	Improve valuation coverage and collection in Western Wards	Re-assess all valuations in Freetown	Move toward market-based valuation processes
	Present a strong supporting narrative for FCC expenditures and broader investment plan for the city.		
	Continue to digitize valuation and arrear information and monitor collection and coverage issues	Analyze fully the arrear data and adjust policies to avoid long-term arrear debt.	
	Ensure the use of legislative and legal powers to enforce tax compliance.		
Clarify planning mandates and build-in resilience into urban strategy	Tie development planning more closely to FCC expenditure. And ensure plan's progress is monitored.	Produce integrated urban plan for Freetown.	
	Create a working group tasked with urban planning and regulatory authority over land use in Freetown.	Build capacity within FCC in urban planning functions so they can be completely devolved.	Completely devolve all urban functions to FCC
	Develop comprehensive disaster risk management framework, including legislation and institutional capacity to coordinate and enforce compliance	Integrate risk reduction measures into development policies and investments, including revision and enforcement of planning and construction codes for buildings and infrastructure	
	Implement disaster risk reduction activities in Freetown's Multi-Hazard Risk Assessment (strengthening drainage infrastructure, improving collection and proper disposal of solid waste and develop early-warning systems)		

Strategic Direction

Freetown needs a change of gear with the new government in 2018. To transform itself from poverty to a more prosperous future, the city will need a prolonged phase of planning and higher public investment. Overall this review argues that Freetown has been victim of neglect – the city has lacked purposive long-term policy: the city has become locked into low-productivity, is unprepared for natural hazards, and is increasingly a bottleneck to investment for the entire country. The result of this neglect is clear. The incoming Government is at a pivotal moment: a rare opportunity for proactive urban policies to transform Freetown into a city that works.



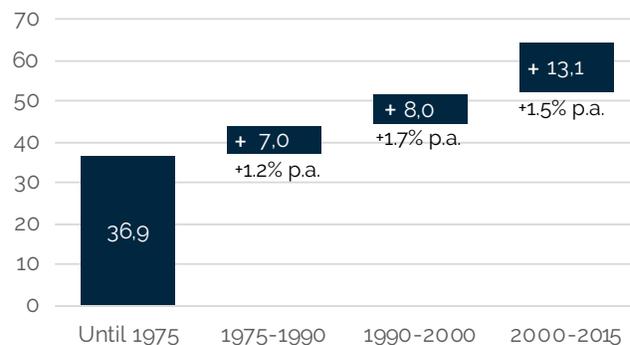
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1

Understanding the problem

Rapid increase in built-up environment

Freetown's urban built up area has expanded considerably in the last few decades. The area covered by urban built up in the Western region⁸ has almost doubled over the last 40 years, jumping from 36.9 km² to more than 65 km² – see Figure 7. In fact, the rhythm of this expansion has sped up in the last decades. While built up area increased by 1.2% per year on the 1975-1990 period, it increased to 1.7% annually between 1990-2000 and remained at 1.5% per annum in the 2000-2015 period. Box 1 below provides an overview of the current geographical divisions across the city and region.

Figure 7. Increase in urban built up area (km²) per period

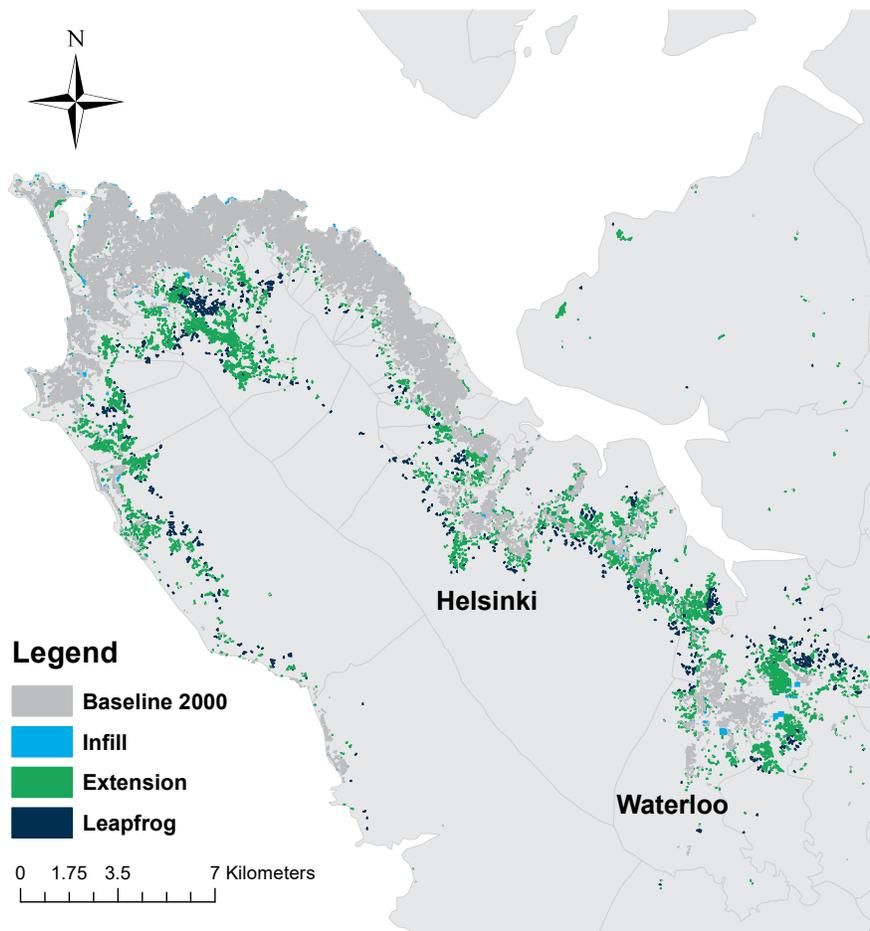


Source: Global Human Settlement Layer (GHSL) 1975-2015

⁸ Region covering the peninsula where Freetown and other close urban centers (i.e. Waterloo and Hastings) are located, see Figure 2

This urban expansion has been characterized predominantly by extension and leapfrog development – see Figure 8. *Extension* refers to new construction on the edges of the consolidated urban area, *leapfrog* refers to plots of newly built land that do not border existing development, and *infill* refers to construction on unbuilt plots surrounded by existing development (see Lall et al. 2017 for details and additional comparators)⁹. Approximately 80% of urban expansion took the form of extension towards the center of the peninsula and following the road to Hastings and Waterloo. Besides, a significant share was also characterized by leapfrog development under the form for scattered built up around extension areas (16%). On the contrary, infill represented only 3% of urban expansion. Such fragmented urban development implies higher costs and lower efficiency of infrastructure investments and service delivery.

Figure 8. Nature of urban expansion for the 2000-2015 period



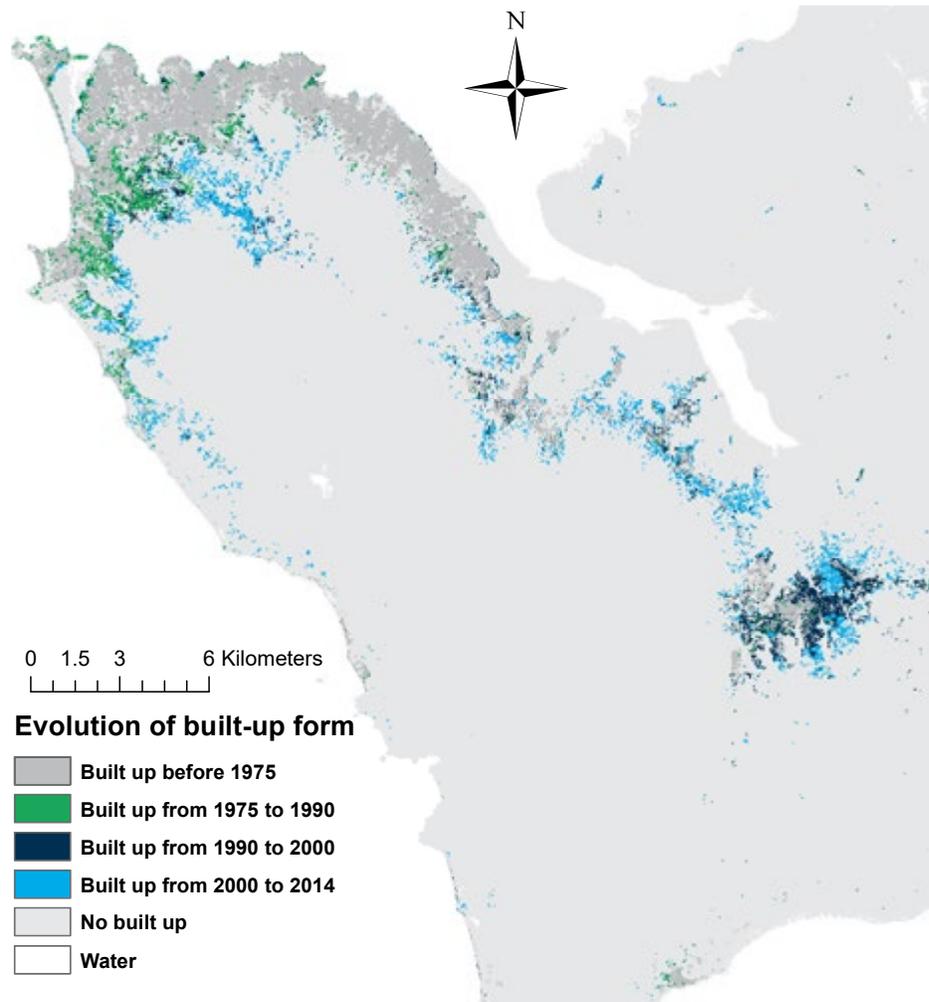
Source: Authors' calculation using Global Human Settlement Layer (GHSL) and LIE index¹⁰

⁹ Lall, S. V., Henderson, J. V., and Venables, A. J. (2017). Africa's Cities: Opening Doors to the World. World Bank.

¹⁰ Liu, X., Li, X., Chen, Y., Tan, Z., Li, S., Ai, B. (2010). A new landscape index for quantifying urban expansion using multi-temporal remotely sensed data. *Landscape Ecol*, 25:671-682

Thus, much of the urban expansion has resulted in a fragmented urban form. As more and more people move to Freetown, they consume land and in the process, they have modified the physical form of the city. Freetown's urban area has been expanding in three different directions, and this has generated an inefficient physical form. This is a consequence of two main factors: urban sprawl and the peninsula's highly mountainous topography. Most of the expansion has occurred along the east coast through a phenomenon of conurbation with the two secondary urban centers of Hastings and Waterloo (Figure 9). A symmetrical, although smaller, expansion occurred on the west coast of the peninsula. Finally, a significant share of the expansion consisted in a movement from the city center toward the mountainous center of the peninsula.

Figure 9. Evolution of urban built up in the Western Region



Source: Global Human Settlement Layer (GHSL)
1975-2015 (2018 update)



Geographical divisions of the Freetown urban area used in the analysis

Freetown (also referred to as the Western Area Urban District) is located within the Western region (see Figure 10). However, as can be seen in Figure 9 above, the urban built up area has expanded considerably beyond the city administra-

tive boundaries into neighboring rural chiefdoms. The district can be divided in three main areas, mentioned repeatedly throughout the analysis, which are the city center, the western area and the eastern area (see Figure 11).

Figure 10. Western region and capital district

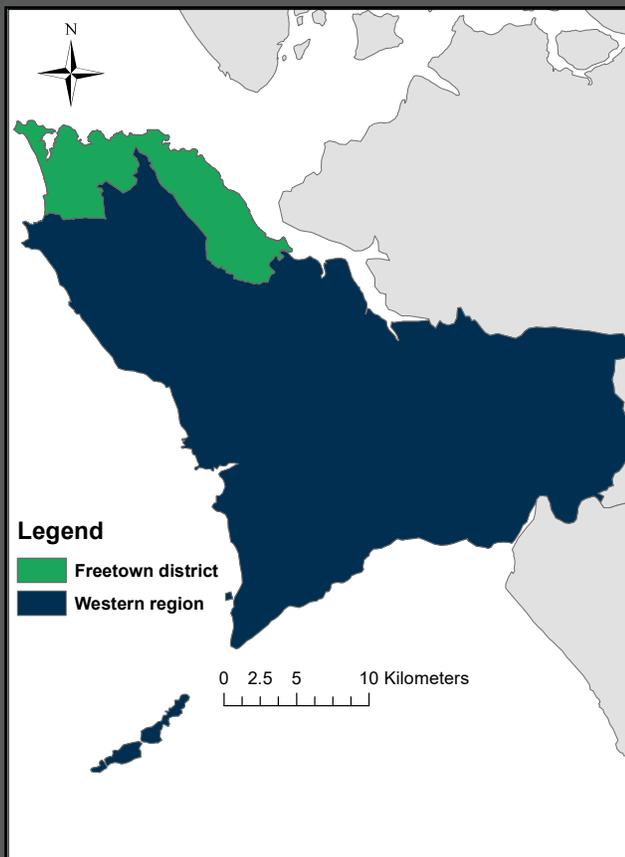
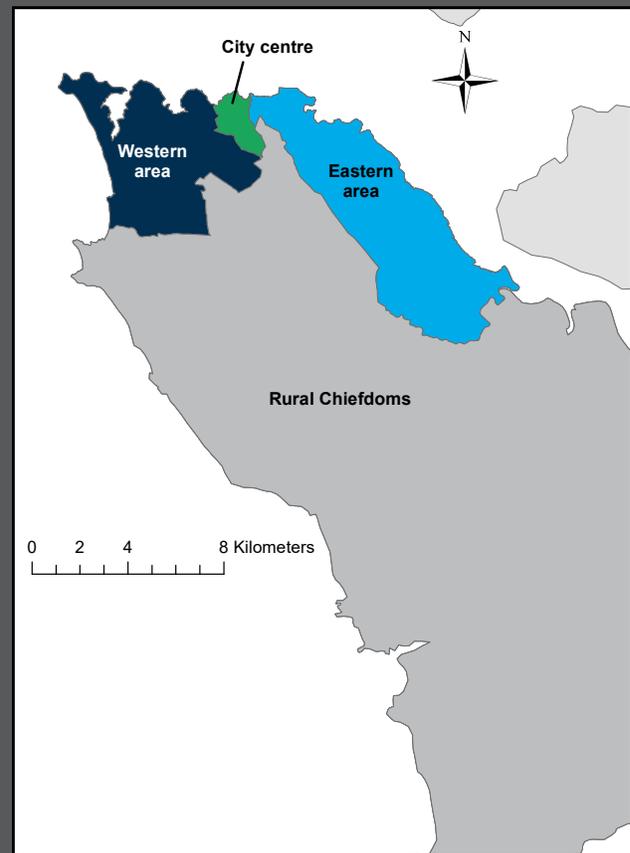


Figure 11. Main areas of the city

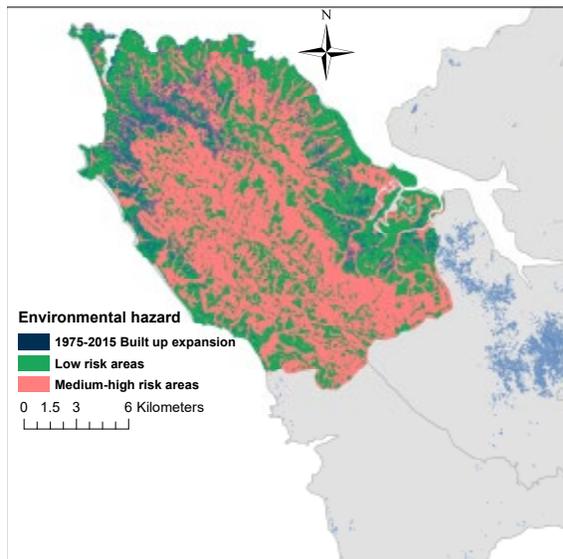


Much of the increase has been in high-risk areas

Uncontrolled urbanization and climate change continue to exacerbate disaster risks, especially in Freetown. The capital's coastal position, located on a peninsula and surrounded by mountains, provides limited space for the city to expand. An accelerating ribbon development along the coast and into the more elevated, steeper and forested central mountain belt are resulting in increasing exposure of people and assets to landslides, floods and sea-level rise. Even more worryingly, since urban development hasn't followed a coherent plan, the increase in population density has been associated with deforestation of hills and informal settlement on floodplains¹¹. Deforestation is increasing surface run-off and intensifying existing risks from floods and landslides further.

Approximately 38% of the built-up expansion has taken place in either medium or high-risk areas – see Figure 12. Due to its topography, the Freetown peninsula is highly exposed to landslides and floods. Though laws exist to prevent illegal construction in high-risk areas, these are often circumvented through bribes for construction permits or ignored for informal development. Therefore, over the years, more and more households have settled in those high-risk areas due to lack of urban planning, low housing supply and high prices. Kroo Bay, one of the city's largest slums, has experienced flooding every year since 2008¹². Previous attempts by authorities to resettle individuals off floodplains following flooding in Freetown to areas 20 kilometers from the city have been resisted by residents for this very reason.

Figure 12. Environmental hazards and urban expansion on the 1990-2015 period

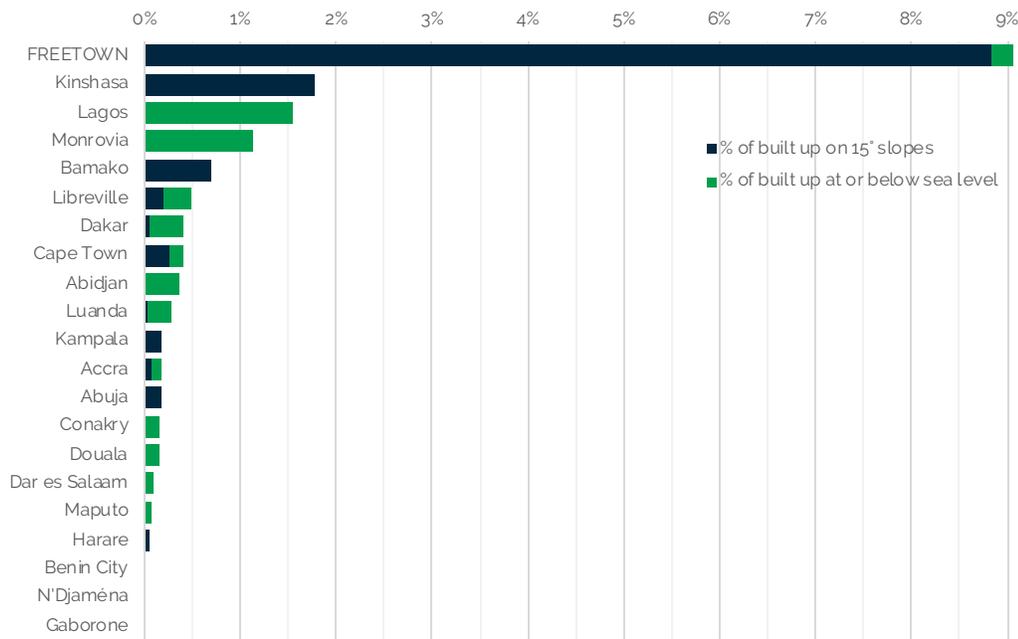


Source: World Bank (2018)¹³ and GHSL 1975-2015 (2018 update)

- 11 World Bank (2017), Rapid Damage and Loss Assessment of August 14th, 2017 landslides and floods in the Western Area
- 12 Jamie Hitchen (2015), 'Flooding in Freetown: A Failure of Planning?' Africa at LSE, 2015
- 13 World Bank (2018). Sierra Leone Multi-City Hazard Review and Risk Assessment: Freetown City and Hazard Risk Assessment

Compared to other African capital cities, a spectacular share of built up area in Freetown is located on either steep slopes or below sea level – see Figure 13. Competition for land is intense. The desire to live close to jobs and amenities means that even marginal city areas such as floodplains, areas with unstable soil, or steep slopes will be settled—often, though not always, by poor people. The coastal location, in combination with the steep mountainous topography and wet monsoonal climate mean that Freetown is subject to frequently occurring natural disasters. Each year from May to November, monsoonal rains result in floods that impact the city almost on a weekly basis. In 2015 serious flooding displaced thousands of people and resulted in many casualties. Most recently, on August 14th, 2017, a massive landslide devastated an area located between the neighborhoods of Regent and Lumley. The landslide debris combined with floodwaters resulted in a flow that damaged and destroyed everything in its 7km path, including critical infrastructure and hundreds of residential buildings. More than 5,000 people were impacted directly by this disaster¹⁴.

Figure 13. Percentage of built-up on rugged terrain



Source: Global Human Settlement Layer (GHSL) 2018

14 World Bank (2017). Rapid Damage and Loss Assessment of August 14th, 2017 landslides and floods in the Western Area

Dysfunctional land markets explain partly the challenges encountered.

For a city to generate productive clusters of activity and to densify safely, land rights need to be both secure and marketable. Land rights in Freetown are often insecure and extremely difficult to transact, even compared to elsewhere in Sub-Saharan Africa. This is due to a lack of clear ownership records, and weak formal governance systems. A lack of clarity over ownership means firms and investors operate in constant fear of a counterclaim over land that they own, or land they are about to purchase. This fear is not unwarranted; 50% of all court cases in Sierra Leone's lower courts relate to land disputes¹⁵. This is largely because land records are both corruptible and incomplete, with only 40% of the city's land titled¹⁶. The result is a loss of security and marketability. Inefficient administrative systems inhibit marketability. Although the recent Land Registration System Project has significantly reduced the time needed to register a property from 235 days in 2008 to under 20 currently, property transfer is still a highly expensive process (11% of property value compared to 8% on average for the region) which drives residents into making informal transactions. In 2006, there were only 200 registered property transactions in Freetown¹⁷.

15 Ministry of Lands, Country Planning and the Environment (2015), "Final National Land Policy of Sierra Leone", The Government of Sierra Leone

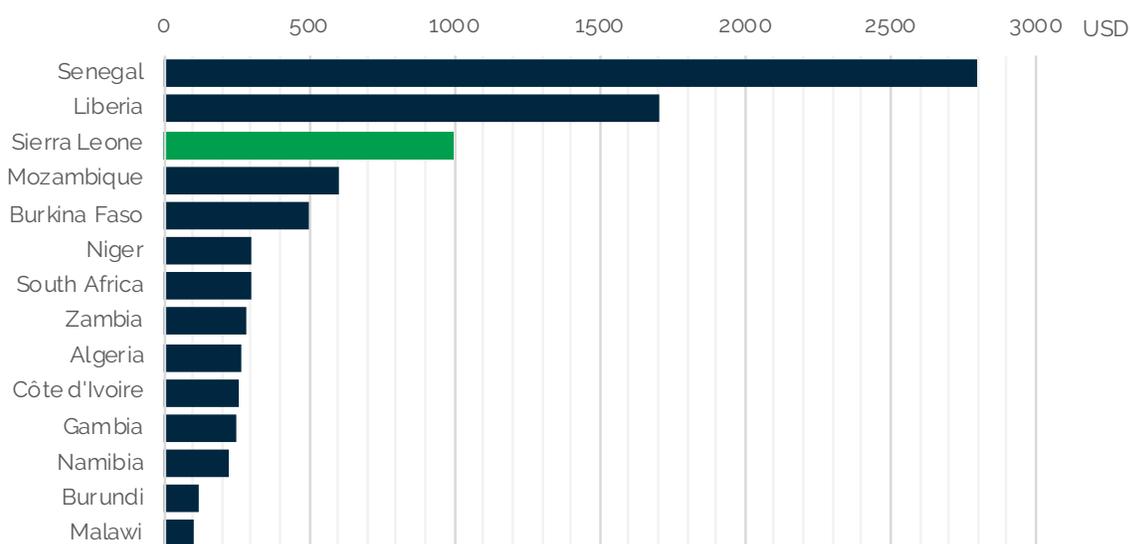
16 2014 Sierra Leone Labour Force Survey

17 Williams, S. and Oredola-Davies, P. (2006) 'Land and pro-poor change in Sierra Leone: Scoping Study', prepared for joint EU-DFID Country Assistance Plan for Sierra Leone, July 2006.

Lack of affordable housing has resulted in informal slums

Rental prices for housing have increased faster than inflation rates, negatively affecting housing affordability. While the real estate market is gradually becoming active as mortgages are growing in popularity with the public, it remains underdeveloped compared to the rental market¹⁸. Therefore, many urban dwellers in Freetown have been priced out of the formal property market (especially in central areas) and must live in areas far from the city centre or to build makeshift houses in slums areas. While price inflation was approximately 36% between 2003 and 2011¹⁹, rental prices increased by around 650%²⁰ during the same period. The average rental price of a formal unit in 2017 was US\$ 1,000, which is especially high compared to other countries of the region – see Figure 14. However, rents vary significantly depending on location within the city. While in the east end of Freetown average rental prices for a three-bedroom apartment range between US\$ 1,000 and 1,500, in the central and west end areas, rental prices for a same-size apartment range from US\$ 3,000 to 5,000²¹. Only 3% of Sierra Leone’s households can afford such high rents.

Figure 14. Average rental price of a formal unit (US\$)



Source: Centre for Affordable Housing Finance in Africa, CAHF, 2017

18 A draft national land policy formulated in 2014, which is geared towards revolutionizing land ownership, use and management has received Cabinet approval and is now at the implementation stage.

19 Households surveys 2003 and 2011

20 This estimate should be taken carefully as there was no way to compare rent per m2, so the assumption was made that the 2003 and 2011 samples share very similar characteristics

21 CAHF (2017), Housing finance in Africa yearbook (8th edition)

Outside the formal market, households spent between 11-33% of their estimated household expenditure on rentals in 2011. Assessing housing demand preferences among the bottom 40 versus the upper 60 percent of households reveals that poorer households pay premiums for better access to basic services and pay 69% more for better water and 54% more for better sanitation – see Table 2 for the results from regression analysis using data from the Sierra Leone Integrated Household Survey 2011. In contrast, richer households pay more to receive access to electricity (22%) and to live in areas with waste collection (37%), and their willingness to pay for rents decreases with distance to markets and if toilets need to be shared with another household (3%). When considering programs that aim at increasing affordable housing for rent or purchase, understanding underlying demand preferences for respective income groups is critical.

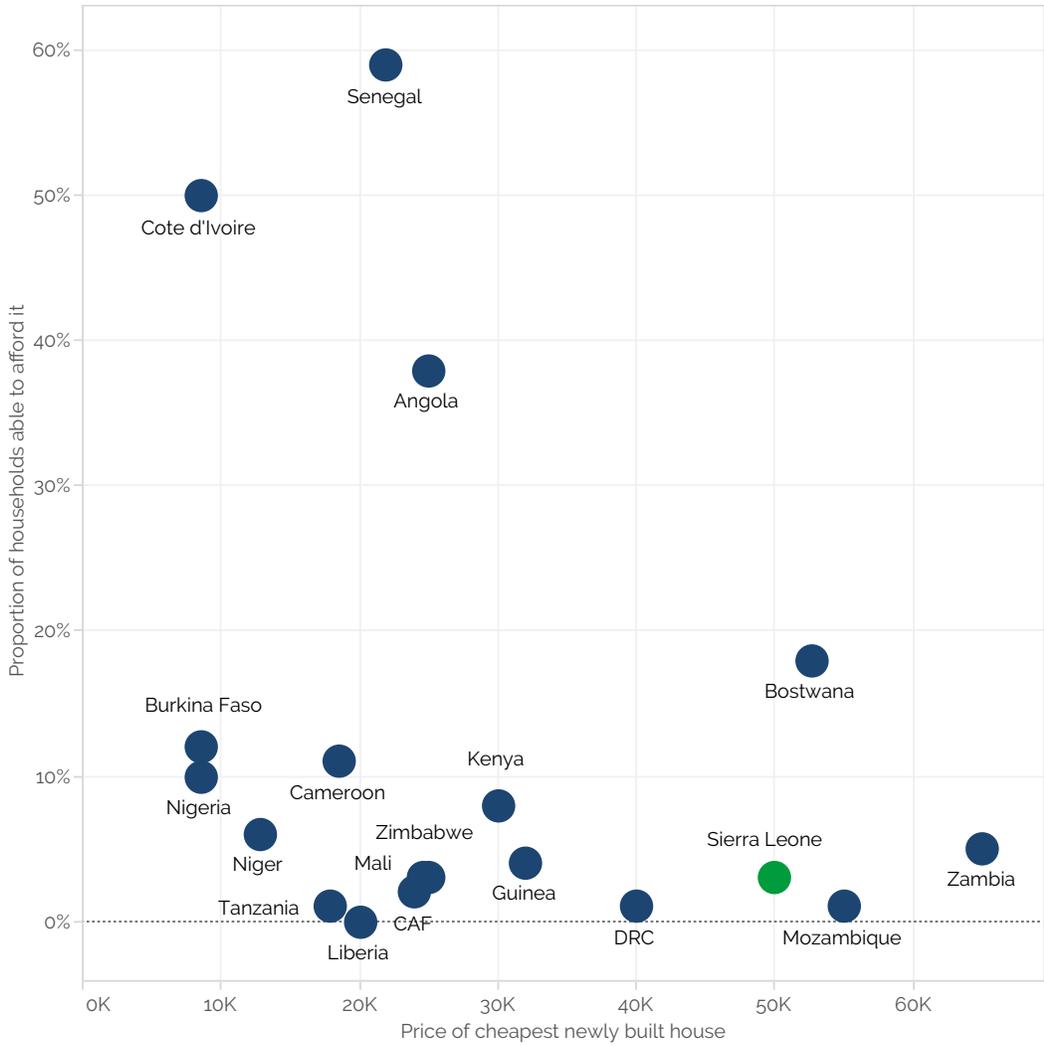
Table 2. What explains household rents?

	All households	High-income households	Low-income households
N° observations	1130	398	732
Adjusted R²	37%	25%	41%
Significant variables	Urban (1%) Toilets quality (1%) Walls (1%) Toilets sharing (1%) Waste (5%) Food market (5%) N° rooms (1%) Drinkable water (10%)	<i>Toilets sharing* (1%)</i> Urban (1%) N° rooms (1%) <i>Waste* (5%)</i> <i>Food market* (5%)</i> <i>Hospitals* (5%)</i> <i>Electricity* (10%)</i>	<i>Toilets quality* (1%)</i> <i>Walls* (1%)</i> Urban (1%) N° rooms (1%) <i>Water* (5%)</i>

**Green italics*: variable unique to regression sub-sample, percentages reflect significance levels

The combination of lack of land and high construction cost constrain the supply of housing. Currently, the cheapest newly built house available on the market costs around US\$ 50,000, which is considerably higher than the regional average – see Figure 15. One hindrance to the provision of affordable low-cost housing is the very high construction cost, driven partly by most of building materials being imported, as very few inputs are produced locally²². In the region, construction materials represent around 20-40% of the overall cost of housing, with the remaining costs associated with land.

Figure 15. Price of the cheapest newly built house (in US\$) and proportion of households able to afford it

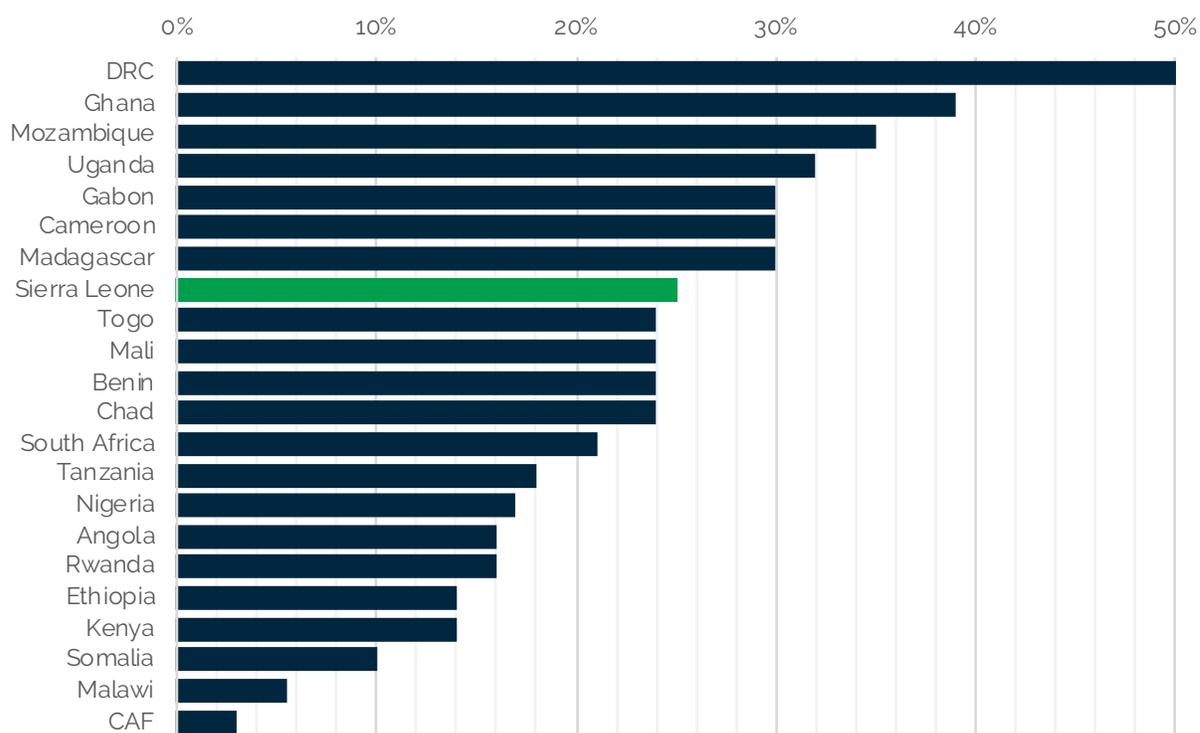


Source: CAHF 2017

²² For example, the price of a 50kg cement bag is around 10 US\$ in Sierra Leone, compared to 8.4 US\$ on average for the region. Source: CAHF (2017), Yearbook

However, housing demand is also suppressed by lack of longer term and affordable financing options. The average lending rate charged by banks on loans to prime customers was around 22% in 2015, making borrowing extremely expensive. More specifically, unsecured lending interest rates are about 25% which is significantly above the average of other countries in the region – see Figure 16. Besides, poor households rarely have the income required to open a bank account, thus making it impossible for them to access mortgage facilities (CAHF, 2017). Without housing options on the outskirts of the city that are suitably connected to allow commuting, poorest residents have little alternative to living in unregulated high-density settlements.

Figure 16. Unsecured lending interest rates (housing microloan)



Source: CAHF 2017

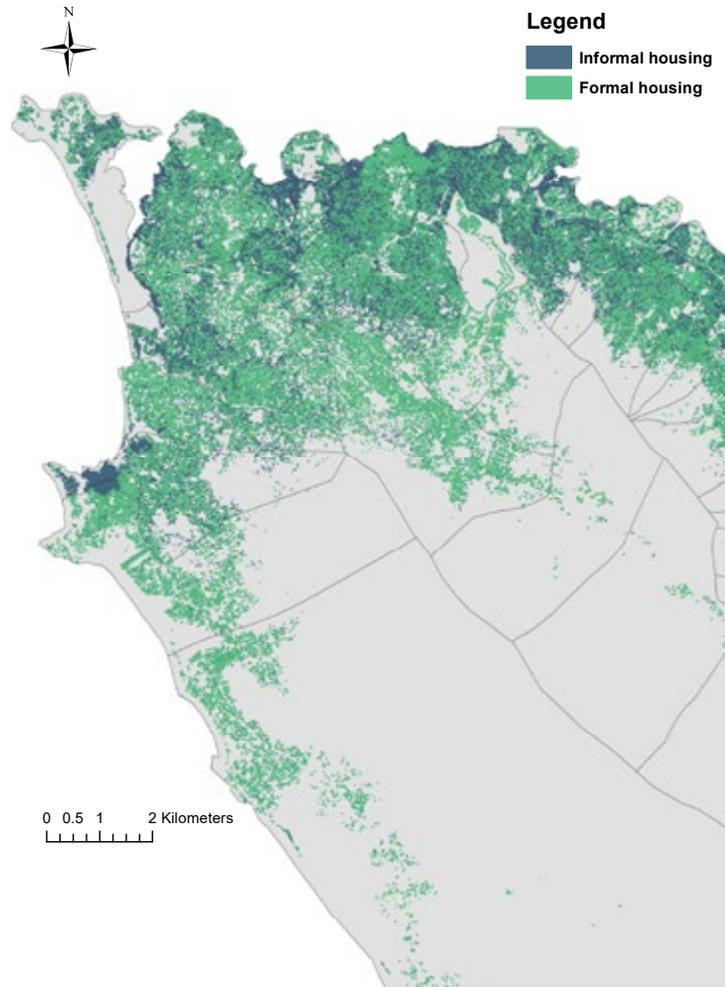
.....which have mainly proliferated near the city center

Uncontrolled urban expansion and the lack of affordable housing has also led to an inefficient allocation of land within the city, characterized by the proliferation of slums near the city center. In the developed world most cities use land in an orderly pattern allowing to achieve high productivity which implies that most of businesses locate in the central business district, and residential neighborhoods have regular layouts with density decreasing as one moves further from the center. On the contrary, in many cities of the developing world, slums appear near the central business district (CBD), fringe developments are scattered, and connectivity is low which results in a dysfunctional city²³. Freetown follows this dysfunctional pattern as slums, which constitute 36% of all settlements, have proliferated in central areas of the city (see Figure 17). Moreover, Freetown has the most inefficient functional utilization of land amongst 14 African cities - 76 percent of the land within 5 kilometers of the central business district is residential, 4 percent commercial and 15 percent unbuilt²⁴. Landslides and flooding disproportionately affect Freetown's poorest who live in some of these overcrowded coastal areas.

23 World Bank. (2009). World development report 2009: reshaping economic geography, Report No. 43738, Washington, D.C., 2008.

24 Antananarivo, Brazzaville, Harare, Maputo, Luanda, Lagos, Nairobi, Kinshasa, Dakar, Accra, Addis, Conakry, Kano, and Lusaka. Africa's cities: Opening doors to the world. World Bank, 2017

Figure 17. Informal and formal settlements



Source: World Bank (2018)²⁵

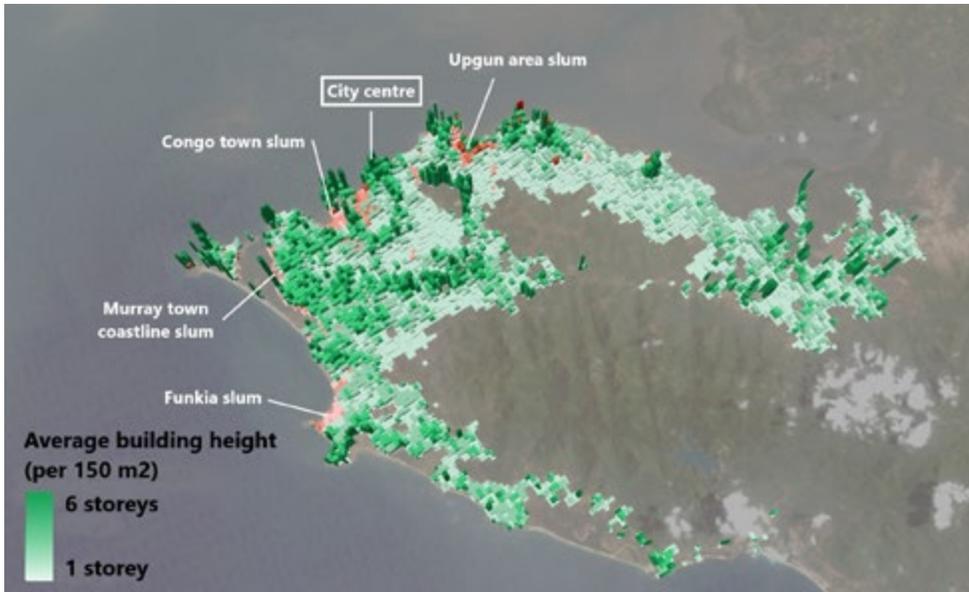
The city's dysfunction resulted in a loss of 15% of building volume within a diameter of 1km from the city center and 7.5% for a diameter of 2km. Average building heights across Freetown are characterized by two diverging patterns – see Figure 18. First, buildings are on average higher near the city center due to higher density. Second, buildings heights are characterized by great irregularity, even within the city center, due to the proliferation of slums. This second pattern implies a cost in building volume due to the non-redevelopment of informal settlements in dense central areas²⁶. This cost can be calculated by comparing the present volume occupied by buildings in central areas to the volume that could be occupied if average building height within slum areas was the same as in formal areas – see Box 2 for more details on the methodology used. This calculation draws a loss in building volumes of 15% in building volume when considering a diameter of 1km from the city center 7.5% for a diameter of 2km²⁷ – see Figure 19.

25 World Bank (2018). Sierra Leone Multi-City Hazard Review and Risk Assessment: Freetown City and Hazard Risk Assessment

26 Henderson, V., Venables, A.J., Regan, T. and Samsonov, I. (2016) Building functional cities. *Science*, 352 (6288). p. 946. ISSN 0036-8075

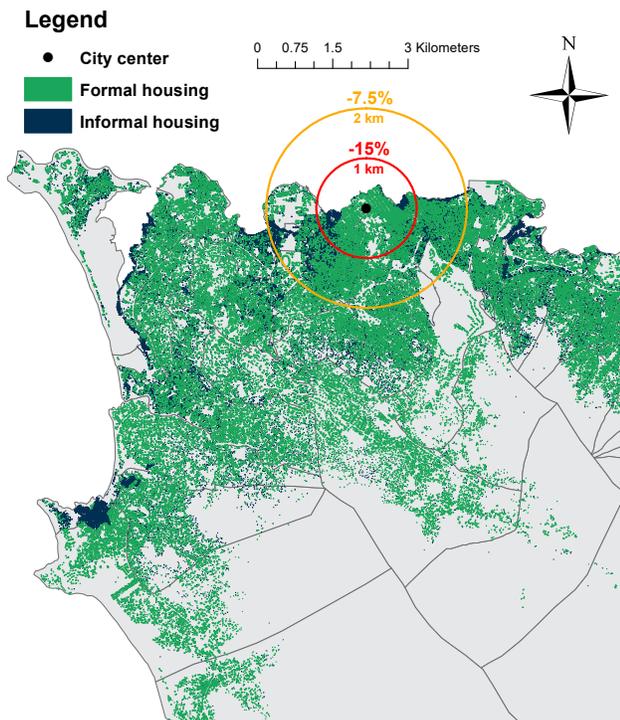
27 The decrease between both estimates can be explained by the fact that enlarging the diameter increases the coverage of mountainous areas where buildings heights are low due to topography

Figure 18. Building volumes across the city (main slums in red)



Source: author's calculation based World Bank (2018)²⁸

Figure 19. Loss in built-up volume



Source: Authors' calculation based on World Bank (2018)²⁹

28 World Bank (2018). Sierra Leone Multi-City Hazard Review and Risk Assessment: Freetown City and Hazard Risk Assessment

29 Ibid



Loss in built-up volume (methodology)

The aim of this analysis is to identify the amount and percentage of built-up volume that is lost due to the persistence of low-height informal settlements near the city center. This is compared to an ideal scenario, in which, informal areas would be converted to formal areas with building heights equal to average heights within existing formal areas of the city center.

This analysis was based on a single dataset consisting in an exhaustive geolocalization of all buildings in Freetown. Information on the following attributes is available for each building: area, number of stories, construction cost (based on materials), and type of building (formal residential, informal residential, education, utility etc). To calculate the built-up volume of each individual building, it was assumed that 1 story was equal to 3 meters in height. This permitted the calcula-

tion of the built-up volume for the whole city and for two perimeters of 1km and 2km radius around the city center (using buffers) by multiplying each building's area by its height and then aggregating the results.

Then, the informal/formal typology was used to calculate separately the average height of formal and informal buildings within each perimeter. The existing built-up volume was then compared to the ideal scenario (i.e. informal settlements' height would be equal to the average height of formal housing within a specified perimeter of 1km or 2km radius). The percentage of built-up volume lost, owing to the persistence of slums near the city center, was obtained by subtracting the current aggregated built-up volume from the aggregated volume of the ideal/optimal scenario.

The monetary loss due to very low and stagnant land prices in slum areas could equal almost US\$ 58 million. Slum areas are unable to capture the returns due to land improvements, such as infrastructure investments and regularized lay-outs, and thus low investments have been associated with very low land prices³⁰. Besides, many slums are in areas prone to environmental risk which further discourages investments. Land prices in slum areas near the city center were estimated to range from US\$ 2.8 to 20 per square meter while in nearby formal areas prices ranged from US\$ 43 to 230 per square meter. It is possible to calculate the approximative loss in land value by comparing the present total land value of those slums to the total potential land value if those areas had the same standards (and therefore same land value) as the formal areas surrounding each of them³¹. When considering only the four large slums that are the closest to the city center (Kroo Bay, Congo town, Maunt Aureol slums and Upgun area slums), it is estimated that the non-redevelopment of those areas resulted in a loss of US\$ 58 million in land value³². This estimate illustrates both the magnitude of losses in terms of

30 Lall, S. V., Henderson, J. V., and Venables, A. J. (2017). *Africa's Cities: Opening Doors to the World*. World Bank.

31 Slum areas were calculated by using satellite imagery and then subtracting the area covered by roads

32 When considered individually, Kroo Bay slum results in a 19 million US\$ monetary loss, Congo town, in a 10.4 million US\$ loss, the Upgun slum area in a 23 million US\$ loss and finally the Mount aureole slums in a 6.2 million US\$ loss.

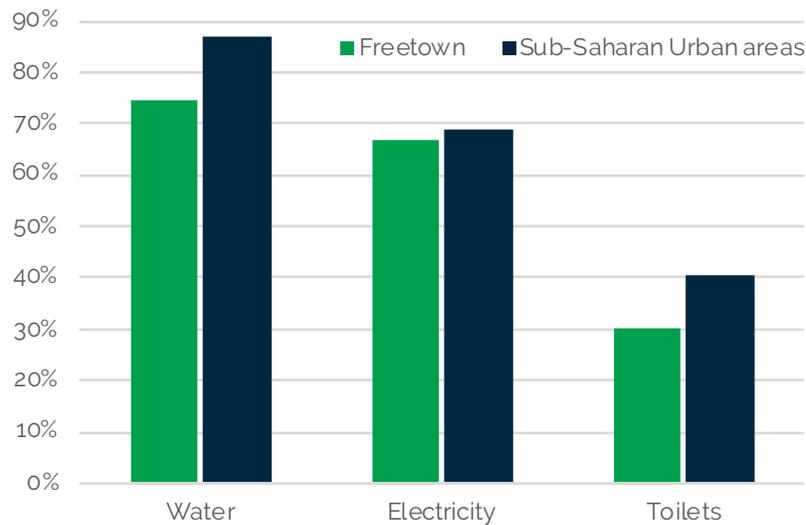
urban development and also in terms of potential tax revenues for the local government. It is important to note, however, that those slums are mainly located on floodplains and their redevelopment would therefore need significant investment to rehabilitate and ensure the environmental security of those areas.

In the city center, informal settlements are largely concentrated on flood plains and next to waste dumps. This results in the most poor and vulnerable people of the city being exposed to regular flooding during the rainy season. This also brings with it significant health risks, when flooding is combined with solid and liquid waste, such as around the Granville Brook dump, which is a flood plain that has a stream running directly through a waste dump. This water is still used for bathing and washing, and regularly floods the Granville community with contaminated water.

Access to services is very limited

Access to public services in Freetown is very limited and coverage is systematically below Sub-Saharan standards in urban areas. While access to electricity is slightly under regional urban areas average, there are significant gaps in terms of access to drinkable water and sanitation – see Figure 20. Only 75% of Freetown’s inhabitants has access to an improved water source compared to more than 86% on average in Sub-Saharan urban areas. Similarly, the city lags the regional average for urban areas in terms of access to improved sanitation with only 30% of the population of households with access to improved sanitation compared to 40% regionally. The lack of urban services directly impacts livability (for households) and productivity (for firms) in Freetown.

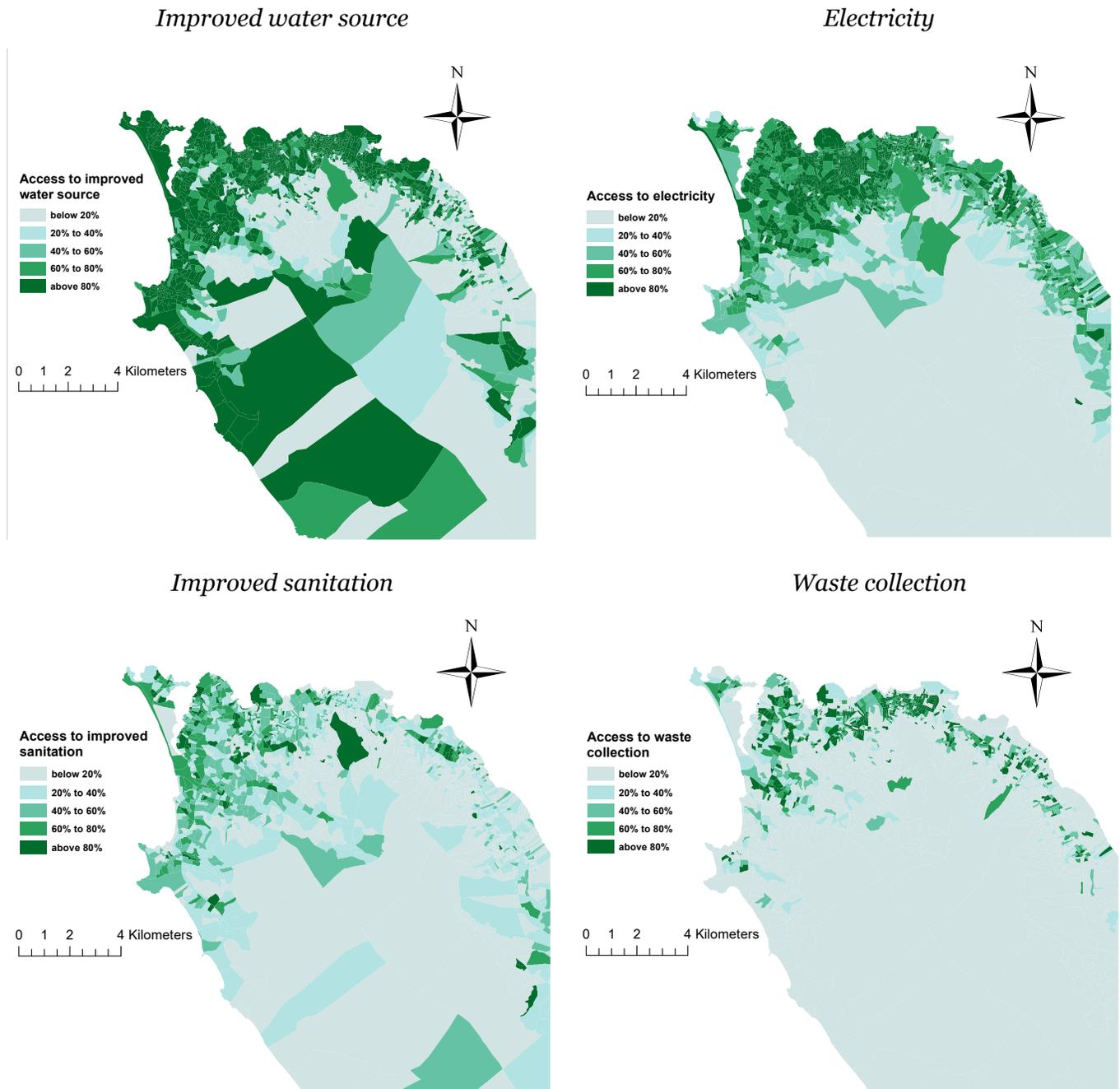
Figure 20. Access to public services in Freetown and Sub-Saharan urban areas (% of pop.)



Source: Census 2015 and World Bank Indicators

Access to public services varies greatly across the city, with the city center and the western part of the city systematically displaying higher access levels than the eastern area – see Figure 21. Access to improved water source (piped water or public tap) and improved sanitation (public or private flush toilets) relatively better distributed across the city, with a certain level of penetration through the center of the peninsula, compared to electricity and waste collection which are very much concentrated in central areas of the city. Besides, waste collection is extremely limited even in the most central areas. Overall, access to public services decreases sharply in the eastern area of the city as one moves further away from the center.

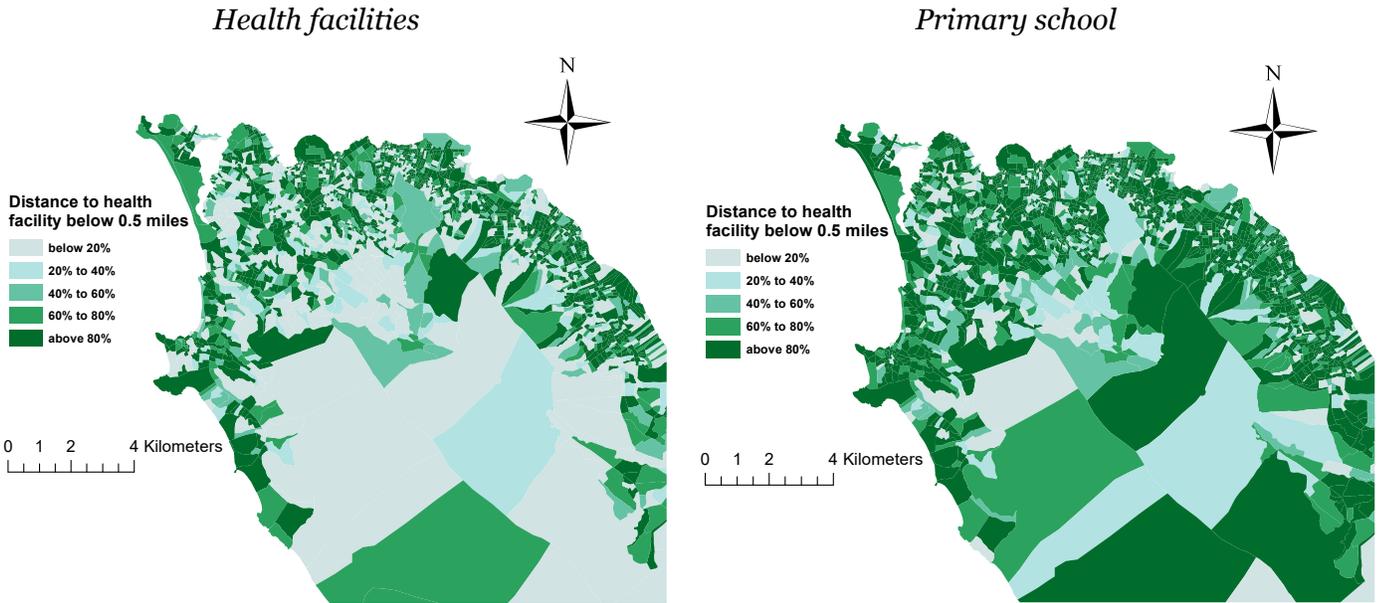
Figure 21. Access to public services (% of households)



Source: Census 2015

While access to education and health facilities differs significantly, both display pockets of low accessibility near the city center – see Figure 22. Health facilities are essentially accessible in the most urbanized and dense areas of the peninsula, going from the city center to the eastern part of the city. On the contrary, access to primary education is better distributed between high density and low-density areas, with good levels of accessibility in the center of the peninsula. However, in both cases, there are several pockets of low accessibility near the city center, in the western part of the city.

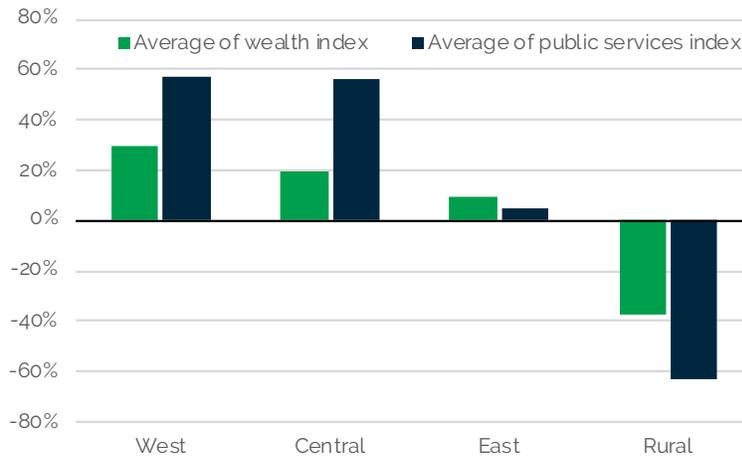
Figure 22. Percentage of households able to access health facilities (left) or primary schools (right) at a distance equal or lower than 0.5 miles



Source: Census 2015

Wealth seems to be more equally distributed across the city compared to the access to public services. Two indices³³ were built to identify general trends in households’ wealth and access to public services. Both indexes display a concentrated pattern with better scores (meaning better access) near the city center and in the western area of the city. However, the wealth index seems to yield more equally distributed results with less variation in average score index across areas than the public services index (Figure 24). This points out to a better distribution of wealth compared to the access to public infrastructures.

Figure 24. Average of both indexes for each area of Freetown



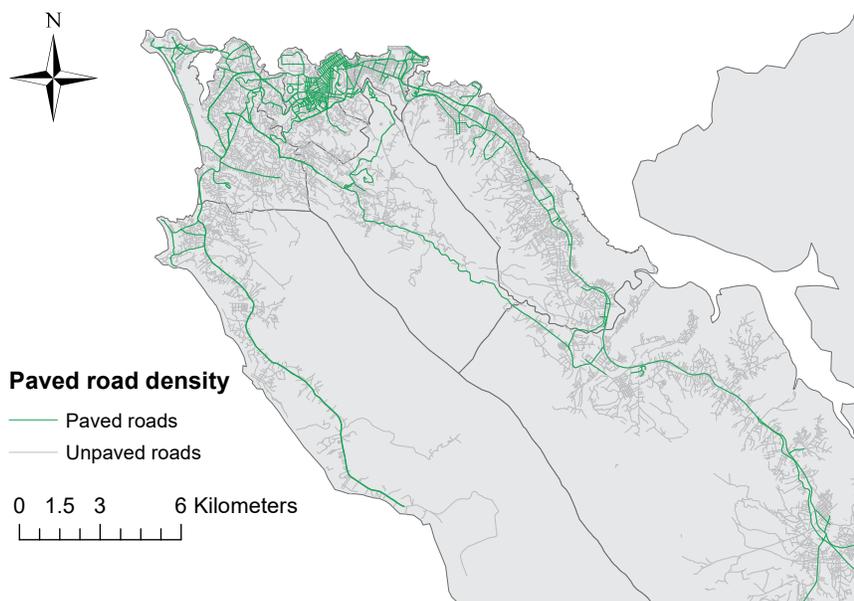
Source: author’s calculation based on census 2015

33 Wealth index variables: housing quality variables, access to public services variables, number of individuals per room

Effective solid waste management in Freetown is a major challenge with the lack of efficient collection services significantly contributing to flood risk, with discarded waste blocking drainage channels. Current data suggests that only 46% of Freetown households are serviced by waste management services. The collection services within informal settlements is currently reported at around 27%. Adding to the low collection rate, disposal has become a major concern. There are two dumpsites in the city: Granville Brook at Kissy and Kingtom. The sites, established in the early 1980's and 1940s' respectively, are now fully surrounded by densely populated neighborhoods. Both sites have long reached saturation and remain unmanaged while receiving all types of wastes, ranging from regular household waste to medical waste, fecal sludge, hazardous and toxic waste. Several risks have been identified in direct relation with these sites: constant burning and release of large amount of leachate is spreading contamination far beyond site boundaries, heavily affecting vulnerable communities. Immediate physical risks such as stability issues and hydraulic blockages have also been identified. In addition, the quantities of solid waste and leachate washed into the ocean have resulted in massive coastal pollution.

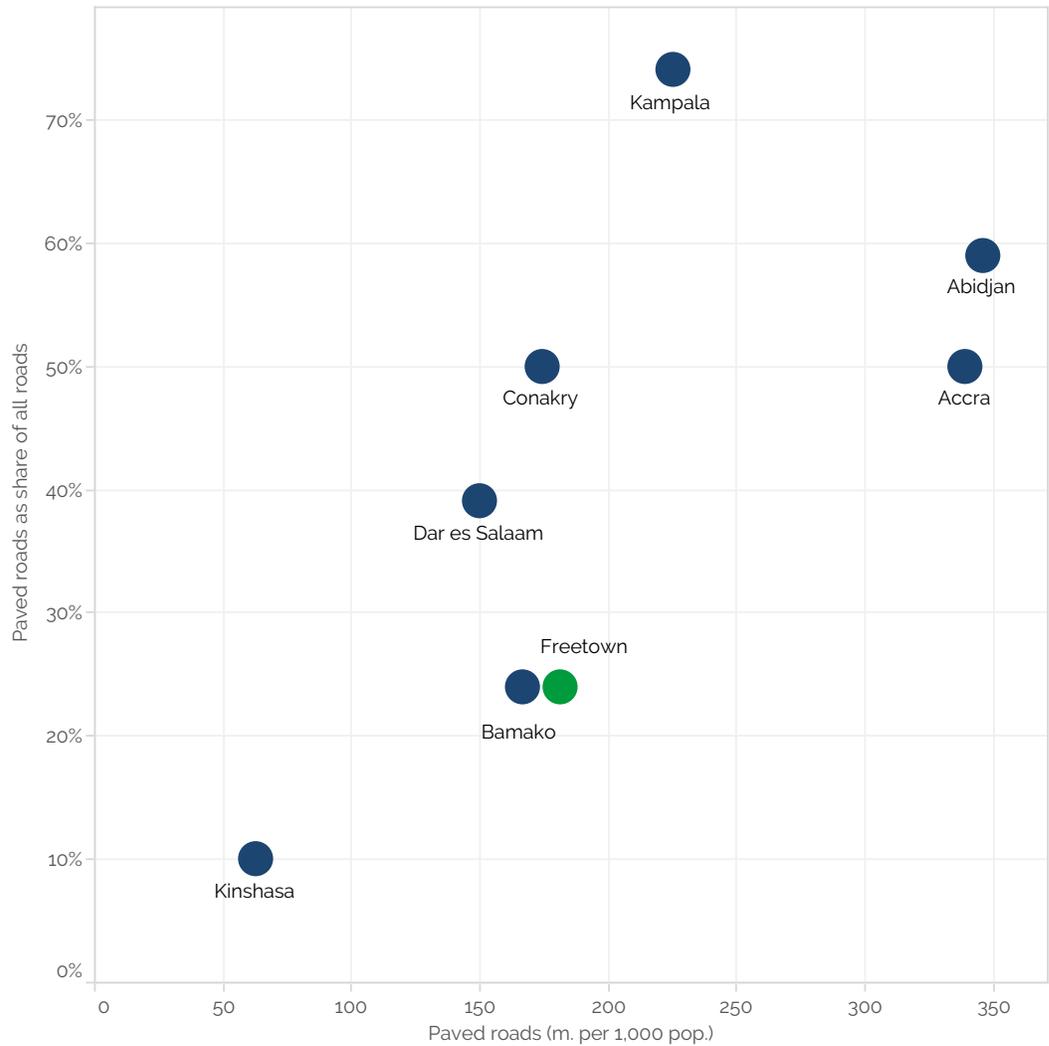
Freetown's road network lags its African counterparts. The road network in the city, particularly in the eastern half, is insufficient with less than 5% of Freetown's total land being covered by roads – see Figure 25. In comparison, roads cover on average 10% of land in large African cities, and international recommendations are closer to 30%. Besides, roads are often in very poor condition due to backlogs in maintenance. The city displays a paved road density per 1,000 inhabitants of around 181 meters (only 24% of roads being paved) which is below average compared to other capital cities of the region – see Figure 26. The poor quality of the road network considerably hinders accessibility within the city and greatly contributes to higher congestion. Mobility is also impacted by the lack of sidewalks, which if they exist are usually occupied by parked vehicles or traders.

Figure 25. Paved and unpaved roads



Source: Authors' calculation using OSM and satellite data

Figure 26. Paved roads density per inhabitants and as share of all roads



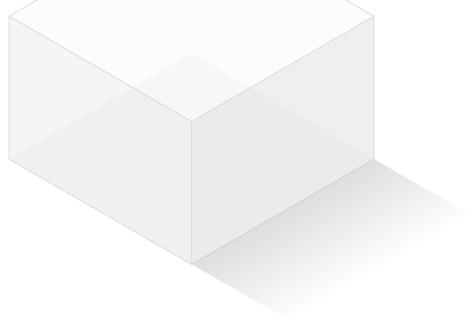
Source: Kumar and Barrett, 2008

Public transport is almost non-existent with only 66 public buses currently in the city, resulting in low frequency of services. Due to congestion, higher capacity buses in the city are unable to transport enough people for revenues from fares to cover their costs. Public transport in the city is instead provided predominantly informally, largely through minibuses, taxis and motorbikes. Though these services provide an essential means of mobility across the city by filling the gap left by a lack of formal public transport, their low capacity and irregular stops mean that they contribute significantly to congestion, alongside private cars³⁴.

³⁴ The WBG transport team is currently starting a study of the efficiency of the public bus company and the business environment in passenger transport in Freetown. This will be complimented by a study on the climate resilience of transport infrastructure and services within the city.



chapter
2



What to do, and where?

Policymakers in Sierra Leone currently face the decision of where to manage risk within the city, where to retrofit and densify within the city and where to put in new investments outside of the city. These options deserve serious consideration; each sends a strong signal about the future of the country, and will result in significant and long-lasting investments. Freetown is already 30% of the economy and will be the focal point for Sierra Leone's economic transformation. It would make sense to identify low-risk, high-yield investments in and around Freetown for future investments.

Manage risk: prevent the creation of new risk and reduce existing risk

An understanding of risk underpins any risk management approach.

A holistic view of resilience is one that recognizes the interlinked spatial, social and economic factors that affect development. A range of shocks and stresses can have devastating effects, and the spatial dimension of inclusion cannot be separated from economic and social dimensions, as marginalized groups in Freetown inhabit service-deprived risk-prone spaces. Thus, decision-makers and communities must assess and understand risk through focused risk assessments to prioritize the most cost-effective investments to manage risk. A city-wide multi-hazard risk assessment was completed in 2018 which can be used to inform an effective disaster risk management strategy and plan.

Preventing the creation of new risk is the most cost-effective approach to reducing disaster risk over the long term.

Freetown's capital stock will increase dramatically over the coming decades. Thus, it will be crucial to ensure that new infrastructure is positioned in low-risk areas and built to certain standards – all of which will help reduce risks in the medium to long term. For this to work, effective systems need to be put in place to restrict the issuance of land and building permits in high-risk areas of the city, and for building codes to be enforced effectively. Integrating disaster risk considerations into land-use zoning in urban planning is also an important element.

In densely populated areas, investments in disaster-protective infrastructure such as improved drainage, channelization and embankments, can unlock economic potential through increases in productive investment and consequent increases in the value of land.

To some extent, the efficiency of infrastructure provision can be measured by the relationship between land-value capture and infrastructure costs. When the benefits of capitalized land values exceed the costs of developing the infrastructure, infrastructure is generally undersupplied. These factors are likely to have a positive effect on land prices, which also shows an increased willingness for people to invest in these areas, given a reduced background risk. These increased land values can in turn help to raise government revenue, helping to finance the cost of ex-ante disaster risk management measures^{35 36}.

However it is possible to reduce risk to zero. Thus, absorbing some of the risk through soft measures, such as monitoring and early warning systems, can provide the time needed to save lives and assets from disaster impacts.

Raising risk awareness amongst communities living in high-risk areas is crucial to ensure households understand the risk they face and can develop their own plans to manage that risk and prepare for the next disaster. Temporary evacuation during periods of high rain in areas at high risk of flash flooding and landslides can be considered. For this to work effectively hydro-meteorological monitoring is required. This can be done at the community level, or with the sup-

35 https://www.gfdrr.org/sites/default/files/publication/The_Triple_Dividend_of_Resilience.pdf

36 World Bank (2017), Rapid damage and Loss Assessment of August 14th, 2017 landslides and floods in the Western Area

port of the national hydromet agency. A disaster management agency can also have an important role to play in coordinating local disaster preparedness planning and supporting early warning systems. The need for strong inter-institutional coordination through all of this is crucial, and Freetown City Council could play an important role to support the city's disaster risk management strategy³⁷.

At present, neither Sierra Leone nor Freetown have a structured approach to financing risk. Such an approach would include a suite of financial instruments that together provide a multi-layered risk financing strategy to manage the financial impacts of disasters. Freetown, like the rest of the country depends significantly on ad-hoc donor funds in response to disasters, often channeled through existing social protection systems, which could be unreliable and could also be delayed. Some efforts are ongoing to integrate disaster responsive mechanisms to existing social safety nets so that they can be scaled up to reach vulnerable and poor populations quickly after disasters. Therefore, it would be important for the Government to plan for such financial resources for scalable social protection ahead of a disaster, rather than rely primarily on donor funds. Further, social protection is one financial instrument, and should be complemented by other instruments that can support financial planning, such as reserve funds and contingent credit, as well as market-based risk transfer solutions that can help reduce economic losses from disasters. As a first step, it would be important to conduct a diagnostic to understand the existing risk retention and risk transfer mechanisms the country has in place, followed by a strategy to identify the appropriate instruments that can address the country's different hazards. Then, it would also be important to develop operating mechanisms to ensure that there is coordination between national and local levels for implementing financial protections solutions identified as suitable for the country³⁸.

The role of communication is also a critical tool that can be better developed to raise the awareness of the direct link between indiscriminate discarding of waste and increasing flood risk with blocking drainage channels³⁹. In addition to building capacity internally within FCC on disaster risk management, Office of National Security (ONS) has provided training to 300 community-based volunteers to provide support during emergency and disasters events. Further empowered and more informed on disaster risk reduction these community-based volunteers could provide invaluable insight to FCC and demonstrate willingness to engage with communities during decisions making processes including the development of land-use plans, hazard mapping among others.

37 World Bank (2017), Rapid Damage and Loss Assessment of August 14th, 2017 landslides and floods in the Western Area

38 Ibid

39 Ibid

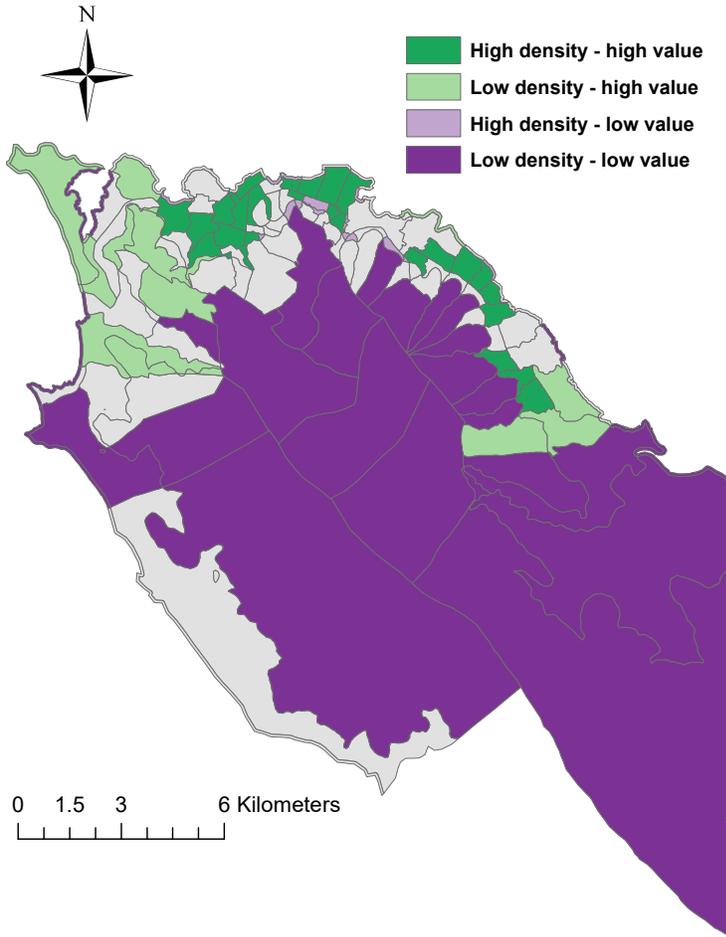
Retrofit: regenerate and recycle pockets of underused land and promote dense neighborhoods

The Government should consider developing a spatially inclusive strategy for the management of existing serviced land so that it can densify over the next twenty to thirty years with minimal outlays by the public sector. A spatial strategy for Freetown could guide redevelopment of existing risk-free serviced land or real estate development, with a view to densification. The objective of such a spatial strategy would be to recycle serviced land for multiple uses in a way that brings in private finance for development, while also creating incentives to dramatically and speedily increase the supply of floor space. Implementing the spatial strategy would require urban design tools, different in different locations of the city. Such tools could include innovative voluntary and market driven mechanisms for addressing land swaps from risk areas to safe areas, targeted rental support for affected households, and developing financing models for interventions that could attract private finance.

Currently Freetown's drainage network is struggling and often failing to cope with existing levels of storm water run-off. Continued unplanned development of neighborhoods will further deepen the pressures on drainage systems. A city-wide study on flood risk management and drainage should be considered and integrated into the city development plans. Considering the current rates of urbanization in Freetown and the recommendations for the need to increase densification in the city, the need to have a good understanding of the drainage flow and the role that green spaces contribute to flood management will help guide FCC to identify and preserve open spaces. Combining city development plans with existing drainage systems with overlaid climate data will enable FCC to make more informed decisions on expansion areas and how to prioritize investments to strengthen the drainage network.

Depending on the characteristics of the wards, different interventions could be used to regenerate and recycle pockets of underused land and promote dense neighbourhoods. Although it was not possible to carry out a complete inventory of land, buildings and infrastructure in Freetown, this study attempts a simple exercise to classify wards across the city based on the value of land and the average population density – see Box 3 for detailed methodology. Only low-risk areas within the city are studied. Based on the two characteristics – land value and density – the city can be divided into four types of areas. Figure 41 displays the classification of each area in Freetown based on density and land prices using 40% thresholds (i.e. areas within top 40% in terms of both density and land value are displayed in red). Each type of area, due to its respective characteristics implies different types of interventions. These are discussed below.

Figure 41. Typology of areas within Freetown depending on density and land value





Methodology underlying 4-part typology of areas

The 4-part typology was developed based on 3 main data sources. First, land prices were collected by real-estate agents in Freetown. Depending on each ward's topography, different land prices were collected for highlands, flatlands and coast-line areas. Second, topographic data (GIS) was used to divide each ward in up to three categories (flatland, highlands, coastline) which allowed for the mapping of land prices across the city for each section and its respective topographic sub-divisions. Finally, a population density raster (30m² resolution) elaborated by Arup for a study commissioned by the World Bank (2018) was used to calculate population density for each of the sections and their sub-divisions.⁴⁰

These data, once combined, help build a 4-part typology of areas:

- Areas with High population density and High land prices (red)
- Areas with Low population density and High land prices (bright red)
- Areas with High population density and Low land prices (bright blue)
- Areas with Low population density and Low land prices (blue)

The threshold used to categorize estimates as High/Low was 40% (top 40% = high, bottom 40% = low).

Table 3. Characteristics of the land prices and population density datasets

	Population density (per km ²)	Land prices (US\$ per m ²)
Range	13 to 70,971	3 to 574
Source	World Bank (2018) ³⁹	Collected by real-estate agents

⁴⁰ World Bank (2018). Sierra Leone Multi-City Hazard Review and Risk Assessment: Freetown City and Hazard Risk Assessment

Type #1: High Density – Low Land Value

High density areas bring the benefits of agglomeration economies, and of economies of scale in service provision. However, high-density informal settlements usually lack proper access to services, negatively affecting socio-economic outcomes for the populations living in such settlements. In-situ slum upgrading, would help transform dense informal settlements into higher-quality living environments, without displacing low-income populations. There are ample lessons and guidance materials to inform the design of such in-situ slum upgrading. Most of them overlap in recommendations, but a few essentials are as follows: Firstly, consultations, listening to and understanding residents' needs and constraints will not only promote better willingness to contribute to the cost, but will also reduce costly complaints and redesigns at a later stage. Secondly, all existing structures (housing and other buildings), service points (water, toilets, shops, etc.), and foot-paths and streets need to be laid out on maps and form the basis of consultations.

Where permanent structures can be retained this may bring down the cost. Early thinking would need to be brought in the process on whether to build higher up to generate space, requiring often sturdier structural solutions. Thirdly, beneficiaries should contribute to the cost to generate ownership and making such programs more sustainable, but such costs should be able to be rendered in kind and in form of labour contributions. See Box 4 for an example of a successful slum upgrading project in Durban, South Africa.



Slum upgrade project in Durban

In 1997, Zwelisha, a neighborhood north of Durban, constituted mainly of shacks and housing was associated with much disagreement and social tensions. The residents largely fell into two groups: one campaigned to the municipality for an upgrade and better housing, and the second was committed to maintaining shacks. Finally, through a local community development committee, the decision was made to update the settlement, and the local councillor was lobbied to commit to the changes. The Zwelisha upgrade project began in 2005. Since 2009 and the completion of all building work, other than a few remaining shacks at the edges of the settlement, Zwelisha appears as neat rows of pastel shaded houses with blue mail boxes lined up alongside tarred roads.

Successful outcomes are a function of the way the upgrade process was implemented. Formal changes that resulted in successful outcomes were possible only because of the continued and consolidated power and influence of the local community development committee following upgrade. The committee played three central roles during the feasibility and implementation phases of the upgrade: it developed a housing list by reaching out to every resident, it facilitated the entry, movement and exit of external professionals (i.e. engineers, construction workers etc.), and attended meetings with the municipality and the local councillor in its capacity as representative of Zwelisha's residents and to relay information to the residents.

Source: Patel, Kamna. (2013). A Successful Slum Upgrade in Durban: A Case of Formal Change and Informal Continuity. *Habitat International*. 40. 211-217.

Type #2: High Density – High Land Value

High density settlements (whether informal or not) in high value neighborhoods usually benefit residents by lowering the time and cost of travel to work and to access services. The lower or more unstable a person's income, the more they value accommodation close to income-earning opportunities. Dharavi in Mumbai is a popular place to live among low-income groups because of its economic advantages, which result from the large concentration of income-earning opportunities there. Resettlement of people to distant sites is in most countries neither politically feasible nor socially desirable, as most moves are associated with loss of livelihoods and thus increased poverty. There are few examples of programs that managed to

house existing slums residents on the same site, while freeing space for higher value purposes. Although not uncontroversial, one such example is the slum redevelopment model currently adopted in Mumbai— see Box 5. Under the approach, private developers can purchase slum land from the government at a relatively low price — 25 percent of the fair market value of the land — and redevelop the land through the incentive floor space index. The developers' obligation is to obtain the consent of 70% of the current residents to clear the land and rehouse the existing population free of cost in multi-story apartment buildings on the same site.



Slum redevelopment in Mumbai

The Indian government's responses to slums have gone through several changes.

In the 1950s and 1960s, the initial government reaction was to clear slums and rehouse slum dwellers in subsidized rental housing. Then, in the 1970s and 1980s, the government adopted a different approach to improve and upgrade the living conditions in slums. However, both approaches failed owing to the shortage of resources and lack of political will.

In 1995, the government started a new scheme of slum redevelopment. Under the current scheme, private developers can purchase slum land from the government at a relatively low price — 25 percent of the fair market value of the land — and redevelop the land through the incentive floor space index⁴¹. After purchasing the slum land and obtaining the consent of 70 percent of the slum dwellers, the developer will clear the land and rehouse the eligible slum dwellers free of cost in multistory-building tenements. In return, it can construct buildings on the rest of the slum land and sell them on the market as a free-sale component.

As innovative as it was, the model demonstrated to face several problems. The operation of the model depends on direct negotiations between slum dwellers and developers, leading to rent-seeking opportunities for the latter. The model did not provide specific standards on the quality of rehabilitation buildings. Those that were ineligible for the program were left with no option but to stay in unauthorized housing, i.e. slums. The model provided free housing to slum dwellers, and developers loaded the cost of rehabilitation on the saleable component leading to increase in prices on the formal market.

Certain improvements to Mumbai's experience could be suggested. The Slum Redevelopment Authority should act as a planner, facilitator, and anchor, not merely as an approving authority. There should be a focus on increasing the provision of affordable housing overall — in Mumbai, most of the housing stock was created in the market outside of the rehabilitation component of slum redevelopment, i.e. in the luxury or high-cost segment. And lastly, rental housing should be promoted.

Source: <https://www.wilsoncenter.org/article/building-slum-free-mumbai>

⁴¹ Floor space index, a ratio of built-up area to appurtenant land, is a planning and development control tool used to control population density and building design from the point of view of health and safety.

Type #3: Low Density – Low Land Value

Since much of prime land is occupied in inner cities, providing additional housing is often limited to in-situ options that would enhance density by building higher. However, with ever increasing demand for affordable housing and capacity constraints, other options need to be additionally explored, including areas that may be at distance to the city centre. Whatever the model, considering how residents may connect to jobs (transit routes and services) will be of utmost importance, when designing affordable housing programs. Where population densities are low, land values are low and public land is available to release, interventions in the housing market could be limited to sites and service provision (i.e. water, drainage and sanitation) and the creation of public pathways and roads for accessing inner plots, leaving the construction of individual housing up to the owners. To ensure that such options remain affordable to poorer households is to keep many of the plots small, although offering various sizes will help attract different income groups. India has been a champion of sites and services in 1970s, 80s and 90s – see Box 6.



Revisiting sites and services projects in Mumbai and Chennai

Between 1977 and 1997, the World Bank supported sites and services projects in 27 cities across India which were first seen as failures. Those projects consisted in small housing plots with already built toilets meant for low-income families who would build their house incrementally as their incomes and savings grew. The neighborhood was planned and provided with services to serve as an antidote to the slums that were, at the time, increasingly becoming the only housing option for low-income families. However, by 1980, there were no houses and no people and little chance that either would come to the site given its location—in an area called Arumbakkam—far from the city center in Madras (now Chennai).

Twenty years after the sites and services approach was largely abandoned by the World Bank, new evidence from India demonstrates that the projects were largely successful and achieved many sought after urban planning goals. The neighborhoods are almost fully built out and built up—not only did people come, but they also invested heavily. There are now houses on almost all plots; less than 10% of plots are vacant. People have invested to add space, upgrade amenities, and improve construction materials, quality, and appearance. Although there are still a few small single-room

and single-story units, most of the houses have 2-3 levels.

Four key technical features—two of them innovations at the time—worked exceptionally well:

1. The introduction of plots that were tiny compared to those “standard” at the time which were far more affordable and have indeed allowed lower-income households to enter the housing market.
2. The use of spatially-efficient site planning norms helped lower the unit costs of developed plots while further increasing density. Only 34% of land was allocated to streets and open spaces, compared to 50-60% frequently seen in other developments in India at the time.
3. The inclusion of a range of plot sizes that would attract different income groups. In Chennai the plot sizes ranged from 33m² to 223 m².
4. The design explicitly aimed for mixed use by including commercial areas (shops), amenities (schools, clinics), and, in some cases, plots for light industry.

Source: Owens, K.E., Gulyani, S., Rizvi, A. (2018). Success when we deemed it failure? Revisiting sites and services projects in Mumbai and Chennai 20 years later, World Development, Volume 106.

Type #4: Low Density – High Land Value

Several factors impede the growth of private housing investment in Sierra Leone, including high construction costs due to imported materials, high financing costs (approximately 23%), high levels of state-owned land, and low-income levels creating a mismatch in affordability and costs. Still, even with these challenges, inroads can be made to increase private sector participation. The development of locally-sourced materials can help offset housing construction costs as well as generate local employment. In Jamaica for example, waste material such as cardboard, Styrofoam and plastics are being converted into drywall and exterior walls. Such enterprises tackle waste management issues, along with reducing construction imports while generating local employment. Supporting similar entrepreneurs and SME businesses in Sierra Leone could help make housing more affordable. Likewise, in Mexico, to make low income self-built housing more affordable, CEMEX provides low-income families with access to financing, building materials bought at bulk rate, and technical expertise to help them build their homes faster and cheaper. There are several examples of how private sector participation, even in low-resource and low-capacity environments, can complement public service delivery – see Box 7 on an example from Liberia. Having a deeper understanding of the constraints to private sector participation will help inform on the appropriate and innovative solutions to unleash private sector growth. SALHOC, the Sierra Leone Housing Corporation, oversees the building of low-cost housing for low and middle-income families. It works with a range of stakeholders including the community, developers, public agencies, philanthropic funders, and other non-profit and for-profits partners working to provide housing. SALHOC also provides loans for building materials and home construction, and manages all housing estates owned by the government. Still the need for housing outstrips supply and improving affordability is a key constraint that needs to be addressed on multiple fronts to facilitate private investment.



Harnessing private solutions for development

- Partnership Schools for Liberia (PSL)

Recognizing the abysmal shape of public education in Liberia following years of civil war and Ebola, the Liberian Minister of Education introduced a radical experiment into education provision: having external providers do it. What emerged was a pilot in which 94 primary schools in 2016-17 school year, would be managed and run by 8 different service providers. These service providers (a mix of NGOs and social enterprises) already had a track record in their respective countries of successfully serving low-income households, including Sierra Leone's Rising Academies. Service providers received the same \$50/student from the government that other state schools received, but could also fundraise for additional resources. Schools and uniforms remained free to the parents. Service providers worked to adapt their models to the Liberian context, trouble-shoot plaguing problems such as teacher absenteeism, and ensuring teachers and students were present in the classroom. At the end of the first year of the pilot, the results showed that on average students in the PSL program had a 60 percent improvement in learning compared to their non-PSL peers—a drastic change in educational outcomes, brought

at minimal cost to the government's budget. For the second year, the number of schools was expanded to 200, with Rising Academy, one of the strongest expanding from 5 schools to 29. Rising Academy students gained an equivalent of 1.3-1.8 additional years of schooling compared to their peers.

Likewise, similar business models that have emerged in low income areas for traditional public services—e.g. access to water, sanitation, waste collection and management -- could also be adapted and brought into Sierra Leone. The replication of these models, which often not only improve access but also service quality, could be facilitated by public-partnership agreement, a Social Impact Bond or other performance-based results instrument. Such instruments would reduce government financial risks while ensuring outcomes, as well as create more sustainable service delivery solutions.

Source: <https://www.cgdev.org/publication/partnership-schools-for-liberia>

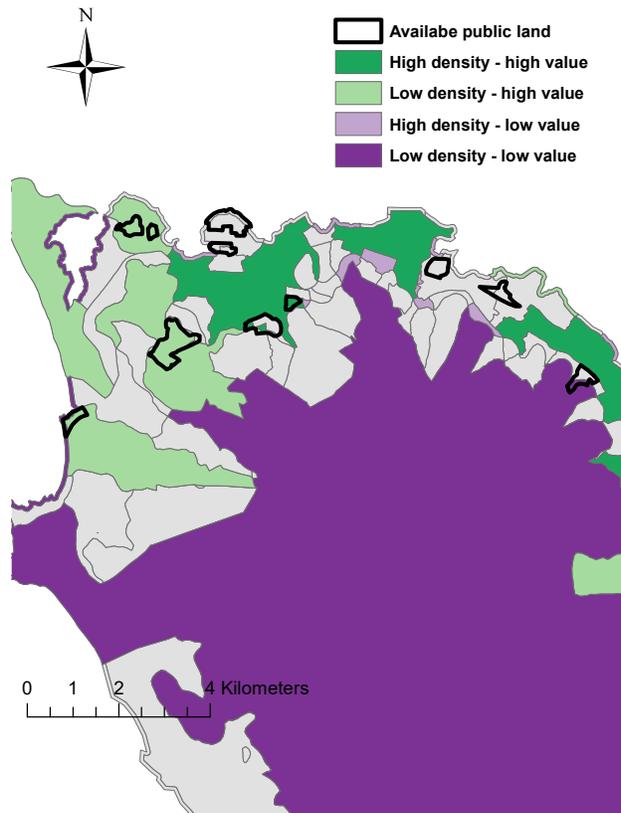
Public land and properties can and should be used to promote investments, including in economic infrastructure, which would also help generate revenues to government in a transparent way. Real estate and asset management is a powerful tool in the city's arsenal, which can also set the tone to enable the development of efficient land and property markets. The first step would be to do an inventory of public property holdings – land, administrative buildings and infrastructure – which usually constitute the lion's share of local public wealth⁴². Government property holdings are often very large, and can directly

42 Capital assets can account for 66% (Los Angeles, USA), to 69% (Cape Town, South Africa) to 94% (Warsaw, Poland) of total assets (i.e. capital and financial). See Peterson, G. and Kaganova, O. (2010) 'Integrating Land Financing into Subnational Fiscal Management', World Bank Working Paper #5409.

impact the urban economy and the urban spatial form – for instance, an inventory of public property holdings revealed that the city of Warsaw, Poland (with a population of 1.7 million) held 11,312 government buildings and facilities and 10,000 shops of more than 1 million m². An inventory of public land would also help identify pockets of land within the city where it would be possible to crowd in commercially-viable infill development by the private sector. And proper asset management can also result in huge public revenues and savings opportunities. An example from Kuwait City illustrates the magnitude of forgone revenues. Kuwait City leased nearly 600 hectares of land to citizens at low fixed rates – land which was immediately sub-leased informally to small entrepreneurs, with the rental revenues foregone by the city equivalent to about 1.5% of GDP, annually⁴³. Such savings, could in turn, be used for much-needed investments in infrastructure assets for service delivery.

The presence of several large parcels of public land across the city could be the bedrock of important urban redevelopment interventions – see Figure 42. Several areas of the city, such as the military barracks in Lumley, Murray Town, Wilberforce or the present prison of Pademba road are owned either by the local or national government. Those areas could be used for wide-ranging urban redevelopment projects. As such, approximately 5% of the high land value – low population density area is covered by public land. More specifically, the military hospital and the neighboring barracks present opportunities for urban densification and redevelopment in the Western area.

Figure 42. Available public land and typology



Source: EU Freetown Structure Plan 2013-2028

43 World Bank (2003) Land and Real Estate in Kuwait: Market Analysis and Policy Implications

Expand: sites and services on city edge

Interventions aimed at improving and increasing density can be delivered more easily and cost effectively through investments *before* settlement. Evidence from Latin America suggests that retrofitting infrastructure after settlement has occurred can be up to three times more expensive than installation alongside housing construction⁴⁴. Since Freetown is set to more than double in size in the next 20 years, proactive investments in infrastructure made now can ensure the next 20 years of urbanization follows a different path. This can be done either by simply demarcating the road system of the future city, or by going further in providing sites and services for development.

Consideration needs to be paid to expansion in high-risk areas, which could be exposed to landslides and floods. Although disasters at the scale of the one that took place on 17th August, 2017 (which caused tremendous destruction of buildings, infrastructure and the loss of hundreds of lives) do not occur annually, urban expansion and deforestation of the surrounding mountainous areas contributed significantly to the impact on local communities. Thus, Freetown City Council should coordinate with the Ministry of Lands and other Government Ministries to ensure that no-build zones close to surrounding slopes are enforced and that building permits are not issued. If such no-build zones are respected, then the risk exposure of future landslides would be significantly reduced.

Providing core infrastructure, particularly when done in advance of settlement, can support residential and commercial settlement that is well connected to the rest of the city and can be easily serviced by utility companies. A prime example of this was the Commissioner's Plan developed by the City of New York in 1811. This plan mapped and demarcated a grid system of roads on undeveloped agricultural land in Manhattan, anticipating a seven-fold expansion of the city's footprint. The same grid system created by this plan today carries New York's traffic, with water and sewerage infrastructure built beneath. Cost estimates from Kigali suggest that acquiring a 1km by 1km road grid, with roads 30m in width, would cost only US\$ 100 per household living within the grid. This compares to a cost of US\$ 30,000 for a public housing unit.

'Sites and services' programs offer a higher cost solution, but one which is likely to be much more attractive to settling households. With such a program, the city provides the core infrastructure for land before settlement, already divided into serviced and registered land plots for households. Serviced plots often include on-site infrastructure for electricity, water and sanitation connections, as well as pavements for plots. This is more expensive than simply providing a road grid for urban expansion, but crucially is cheap enough to be feasible. Cost estimates from Kigali suggest that providing a 50m² plot, serviced with on-site infrastructure (including electricity, water and sanitation connections and pavement) is around US\$ 3,500. This is still more than eight times cheaper than a public housing unit.

44 Edesio Fernandes, 'Regularization of Informal Settlements in Latin America' (Lincoln Institute of Land Policy, 2011).

Such serviced plots enable people to voluntary settle in a way that is consistent with the city plan. They also provide an attractive relocation for people living informally near the center of the city and thereby blocking commercial use of valuable land. By providing an attractive option, it makes voluntary resettlement feasible and so unblocks development. Research suggests that sites and services programs implemented in Tanzanian cities in the 1970s and 1980s have led to the formation of better planned, better connected and ultimately higher-value neighborhoods than comparable greenfield areas which did not receive these investments. They have also proved to create larger and more enduring improvements than the widely promoted strategy of ‘slum upgrading’. Compared with those informal settlements that received similar scale infrastructure investments in ‘slum upgrading’, land values in ‘sites and services’ areas newly are now up to 5-7 times higher.⁴⁵

Estimating the cost of proactive planning in Freetown

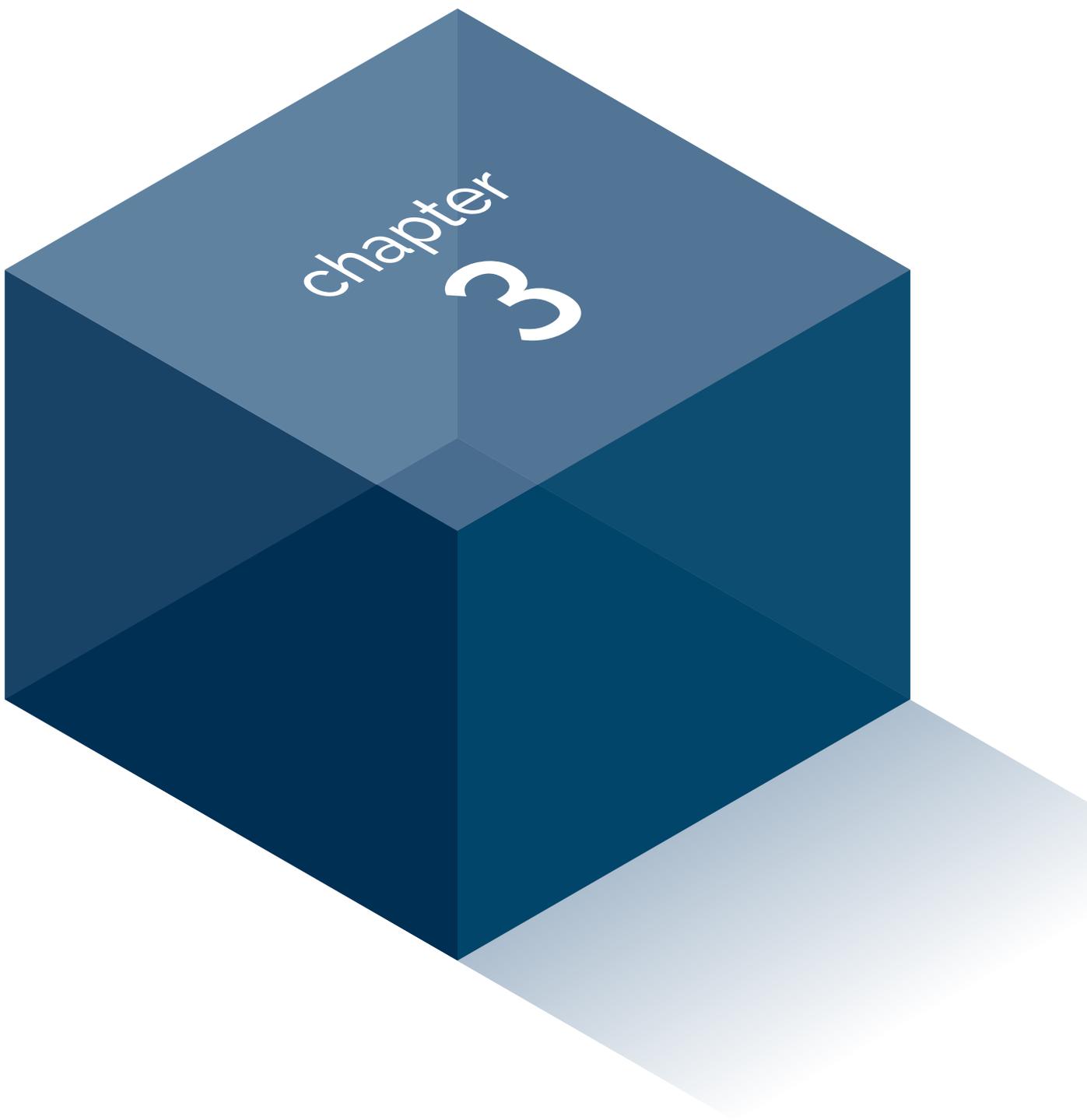
According to the 2015 census, the population of the Western Area Urban District is 1,055,964, with growth rates at around 4.2%. This translates to approximately 45,000 new residents in the next year, and 535,000 residents in the next decade. Assuming an average household size of five, this means the city needs to accommodate 9,000 households in the next year, and 107,000 in the next decade. Using the cost estimates from Kigali:

- Accommodating these households simply by providing arterial roads would cost **US\$ 900,000 in the next year**, and US\$ 10.7 million in the next decade.
- Accommodating these households by providing sites and services for development would cost **US\$ 31.5 million in the next year**, and US\$ 374.5 million in the next decade.

Both options are far more affordable than accommodating new households through a public housing scheme, which would cost US\$ 270 million in the next year and US\$ 3.21 billion in the next decade (based on cost estimates from Kigali). A commitment of around US\$ 30 million per year for new plots properly equipped with electricity, water, sewerage and roads, and with good transport facilities, could be matched by a land registration scheme for Freetown, modelled on what was done in Kigali, which could then be used to raise the tax revenue to finance the commitment.

⁴⁵ Guy Michaels et al., ‘Planning Ahead for Better Neighborhoods: Long Run Evidence from Tanzania’, 2018.

chapter
3





Who gets it done?

Is Freetown equipped to adapt and mitigate environmental risk?

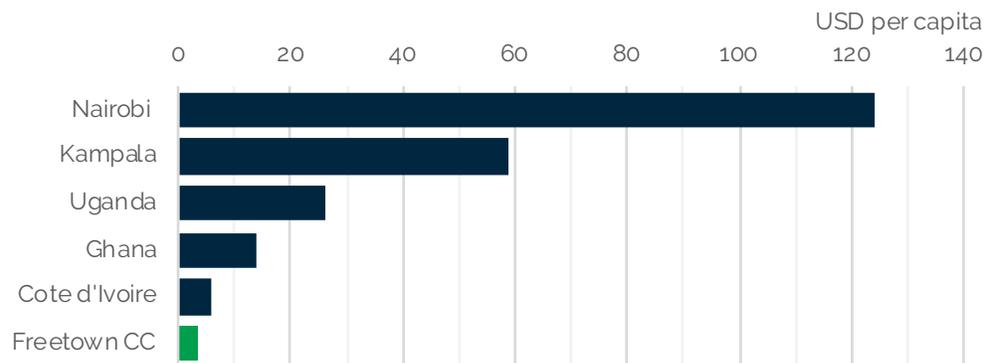
Freetown's urban challenges are urgent and myriad and its increased urban risk profile – most starkly seen in August 2017's tragic landslides– demand both national and local government attention. However, this begs the question: how well equipped is Freetown City Council (FCC) to adapt and mitigate the inevitable future environmental hazards? This section is divided into two halves. Firstly, FCC's scope to adapt will be assessed. This section will highlight FCC's precarious financial position and demonstrate that the council currently does not have the financial scope to address key urban retrofitting or environmental infrastructure. Areas to enhance FCC's property tax will be identified as crucial reforms to ensure future financial stability and allow for increased scope to invest infrastructure which can manage density and the city's environmental risk. Secondly, the section will assess FCC's capability to mitigate future environmental risks. Here, weak capabilities in urban planning will be identified as both a key driver to environmental risk as well as exacerbating severity of environmental catastrophes. Unclear mandates between local and national government are identified as resulting in a complete lack of and weak implementation in crucial planning regulations. Put simply, lack of land regulation is driving Freetown's environmental risks. FCC will need to enhance its own capabilities in urban planning functions to play a more active role in ensuring these regulations are carried out.

Freetown's scope to adapt – consolidating FCC's financial position to manage environmental risk

FCC is in a precarious financial position. This limits its scope to invest and manage Freetown's environmental risks and growing density. While FCC's fiscal position has been improving over time, in relative terms to other city governments, the city has limited fiscal scope. Rather the council is largely reliant on external sources of revenue, in particular, central government transfers. Moreover, these transfers are tied to specific functions and services and are unlikely to increase in the short term. For Freetown to adapt and manage environmental risk rising from increasing density, the council must strengthen its fiscal independence and enhance own source revenue. The best way to increase own source revenue is through improving its property rate taxation, which already contributes the most to council revenues but is yet to reach its potential. FCC will need to address two key issues in its property taxation system. Firstly, while the level of coverage is encouraging, the council needs to strategically expand its property rates database considering increased development in Western areas. Secondly, recent reforms to collection processes need to go further, particularly in areas of enforcement, communication and arrears.

Modest improvements have been driven by gradual increases in own source revenue. In absolute terms, the amount of local government revenue in Sub-Saharan Africa is very low. However, as Figure 43 shows, even compared to other Sub-Saharan local governments, FCC's revenue per capita is extremely low. This is due to a combination of low levels of both - own source revenue and central government transfers. Despite FCC's bleak fiscal position, the council's budget has been improving over time. This progress has been driven by increased own source revenue. The Local Government Act 2003 (LGA) provides for councils to generate revenue through the collection of local tax, property rates, licenses, fees and charges, mining revenue and interests and dividends. Figure 44 shows FCC's revenue between 2013 and 2016. The data shows that FCC's own source revenue, despite hitting record lows in 2013, has rebounded and remained relatively stable since.

Figure 43. FCC's revenue per capita is far lower compared to other local governments in Africa

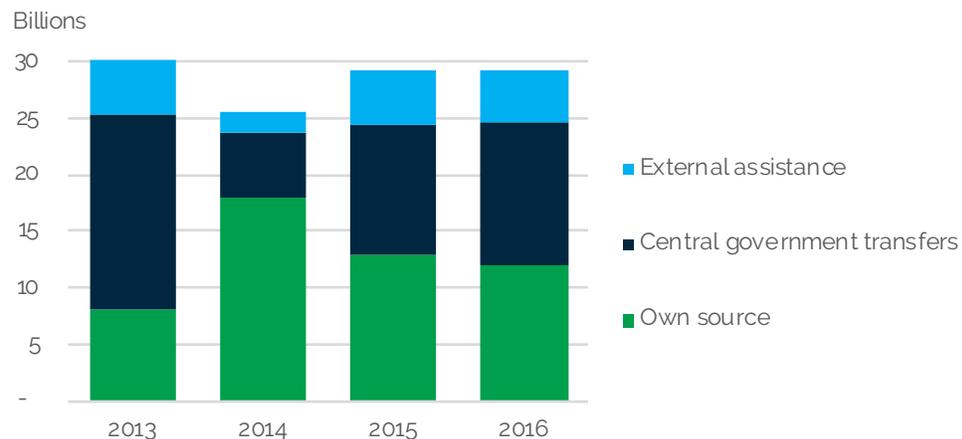


Source: Dillinger (2018) Forthcoming

Note: (a) Budget years – Nairobi (FY2015/16); Kampala (FY2013/14); Ghana (2015); Cote d'Ivoire (2013); FCC (2016)

(b) Figure from Uganda, Ghana and Cote d'Ivoire are averages of cities and towns, excluding primary cities.

Figure 44. FCC revenue – external sources make up most of the Council's revenue



Source: FCC financial statements

Despite improvements in own source revenue, FCC is still largely reliant on central government transfers. As per Sierra Leone's decentralization process, grants from the central government are transferred to councils for specific devolved functions and administrative operations⁴⁶. Despite administering Sierra Leone's largest city, FCC is still heavily reliant on central government transfers. As of 2016, central government funding made up 43% of FCC's total revenue. At an aggregate level, transfers to FCC are relatively low when compared to other countries, especially compared to other Sub-Saharan countries, some of which receive upwards of 70% of their revenue from central government transfers. However, these aggregate figures hide the variance within a country's urban hierarchy. Typically,

⁴⁶ Size of grants is calculated by the Ministry of Finance, Local Government Finance department. However, prior to the use of a formula, the size of grants were based on past expenditure for these services.

the larger the city, the less dependent the local government is on central government transfers. This dependence on central transfers is more starkly demonstrated when considering FCC's expenditure by function. Table 4 outlines FCC's 2016 expenditure by technical functions and the proportion of central government grants for each function. The table shows that education, health, road maintenance and solid waste management make up over half of FCC's total expenditure. Yet, for all these functions apart from solid waste management, FCC's expenditure is close to completely reliant on central government funding. Thus, FCC has little influence over much of its expenditure. FCC, along with many city administrations in Sub-Saharan Africa, are facing increased expectations from its citizenry at a time when national governments are facing financial crisis. Thus, the likelihood of increased financial assistance from the central government is unclear and unlikely at best.

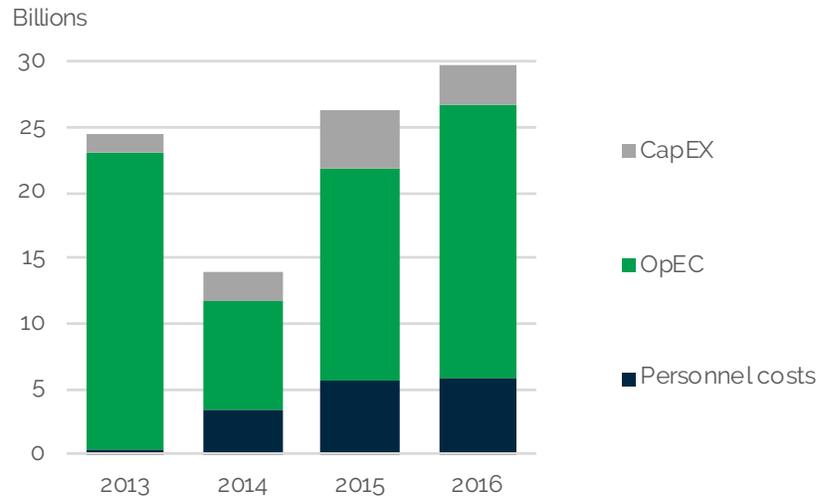
Table 4. FCC 2016 Budget expenditure

Function	% of total revenue	Absolute expenditure	% of expenditure from grant funding
General public services	36%	10,609,379,506	—
Road maintenance	26%	7,645,842,503	100%
Primary health care and sanitation	15%	4,557,147,097	99%
Waste management	11%	3,330,069,843	54%
Housing and community amenities	4%	1,274,135,150	—
Primary and secondary schooling	3%	954,752,408	84%
Family welfare services	2%	557,206,650	—
LED	2%	531,055,327	—
Agriculture and forests	1%	193,287,011	91%
Recreation, culture and religion	0.3%	100,250,000	—
Fire protection	0.1%	20,000,000	—
Fisheries	0.03%	8,694,000	—
Total	100%	29,781,819,495	—

FCC's reliance on central funding suggests limited fiscal scope for adaptation. FCC's financial situation inhibits the council from investing in civil works, environmental infrastructure or more generally in capital expenditure. The majority of FCC own source revenue is spent on recurrent expenses – this includes personnel costs and maintenance of assets and services (Figure 45). Part of these high recurrent costs is related to the high costs of maintaining infrastructure which is damaged every year during the wet season. For instance, road maintenance is focused entirely on reservicing arterial roads following each wet season. While capital expenditure (capex) has doubled from 5% of total expenditure in 2013 to 10% of expenditure in 2016, this is still far below other cities of similar size. While the council over the years has invested in re-developing modest assets, such as market places, it lacks the financial freedom to make any large capital investments. In lieu of central

government support, the council is reliant on ad-hoc finance from external donors for any large capital investment. This leaves the council unable to invest in urban retrofitting to managing Freetown's density and growing environmental risk.

Figure 45. FCC expenditure – recurrent expenses dominate the Council's expenditure



Source: FCC Financial statements (2014-2016)

Increasing own source revenues is critical for the future sustainability of Freetown. Effective taxation is a critical aspect for any city. FCC can leverage its scope in raising its own source revenue – which is currently an untapped potential. Increased own source revenue has obvious financial benefits. If FCC is to manage Freetown's growth and invest in key adaptive urban infrastructure, the council must enhance its revenue. Additionally, effective taxation is also critical in forging a social contract between citizens and the administration. Through transparent processes of collection and expenditure, the experience of taxation builds the authority of the municipal government and engages citizens to collaborate and ensure that their money is well spent. There are clear good governance benefits from an effective taxation system. As Freetown grows, it will become increasingly important for FCC to sustainably levy its taxes.

Property tax is FCC's largest revenue earner. Between 2016-2014 FCC's has been generating 23-25% of its own source revenue. Of its own source revenue, property tax is by far the largest revenue earner, making up 50-65% of own source revenue. An emphasis on property tax is common for most urban councils⁴⁷. In the 1990s, property taxes accounted for 40 per cent of all sub-national taxes in developing countries⁴⁸.

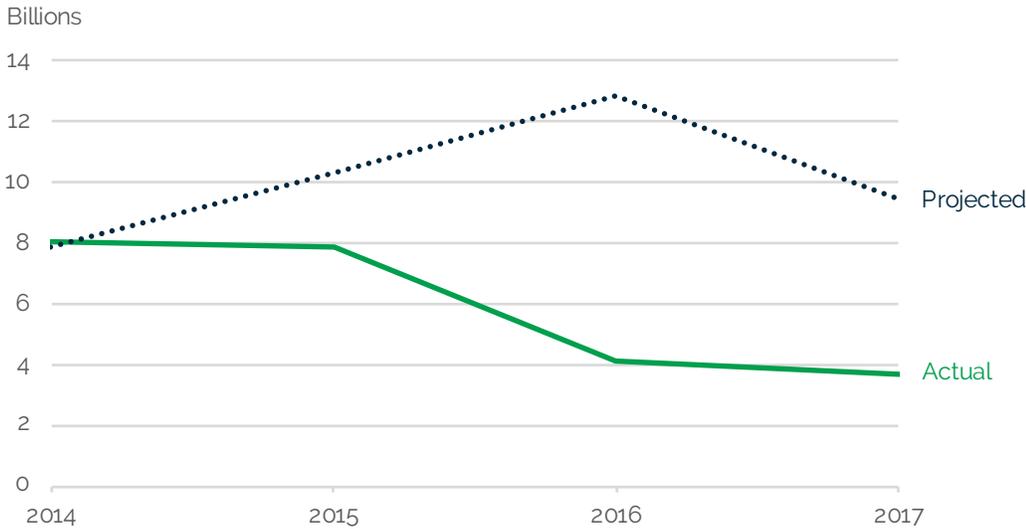
FCC is under performing on its property tax collection rates. Figure 46a shows the decline in property tax collection compared to the council's own projections. These projections are already a modest assessment based on the number of houses in FCC's valuation database, not how many properties there are in Freetown. In 2016, FCC collected approximately US\$ 524,000 in property tax. If

47 Mikesell, J. (2002) International Experiences with Administration of Local Taxes: A Review of Practices and Issues, mimeo, School of Public and Environmental Affairs, Indiana University

48 Bird, R. Slack, E. (2002) Land and Property Taxation: A Review, mimeo, University of Toronto.

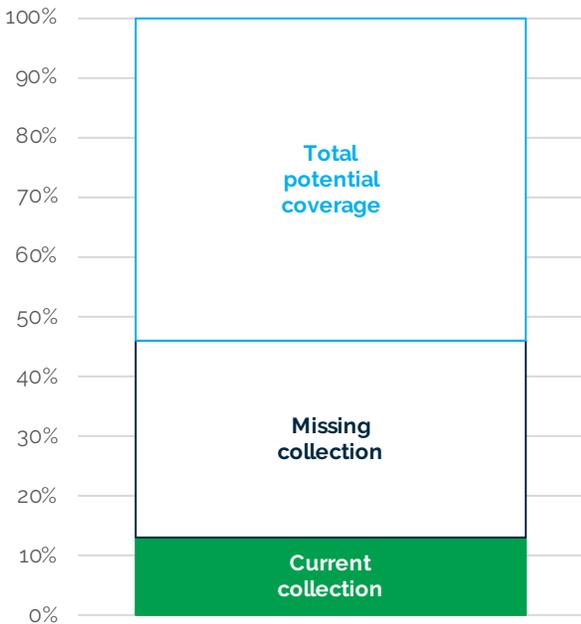
FCC were to collect from all the properties in its database, its property tax revenue would more than double to US\$ 1.2 million. If FCC could collect from all properties in Freetown, then it's estimated property tax revenue would be US\$ 3.9 million. This equates to 89% of its 2016 total revenue. These gaps in collection potential (see figure 47) highlight two issues, 1) a coverage issue, and 2) a collection issue.

Figure 46a. Property tax – FCC’s collection of property tax is underperforming



Source: FCC Financial Statements

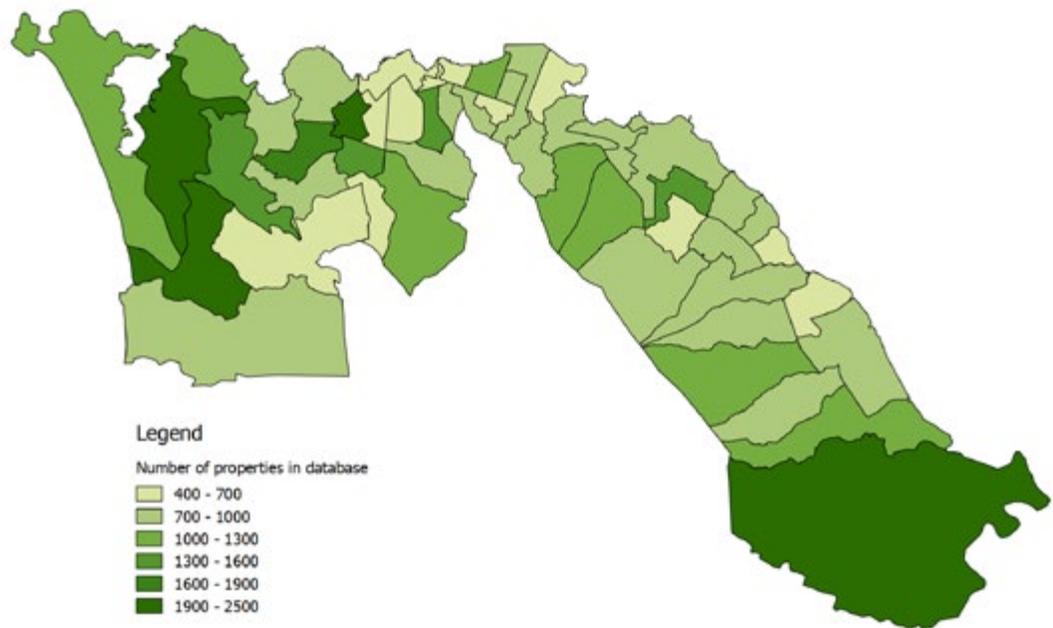
Figure 46b. Freetown’s property tax potential (%)



Coverage

Given FCC's resources, the size of FCC's property database is encouraging. FCC has been valuing property since 1911. The council has valued approximately 54,745 properties. Residential properties make up the bulk of the database (48,134), while commercial properties number only 6,611 (approximately 12%). Currently the Council hires staff to go out and explore new buildings under construction which they can then follow up with a valuation. The number of households included in FCC's valuation database varies across wards. Figure 47 maps the number of residential properties in the database across all wards within FCC.

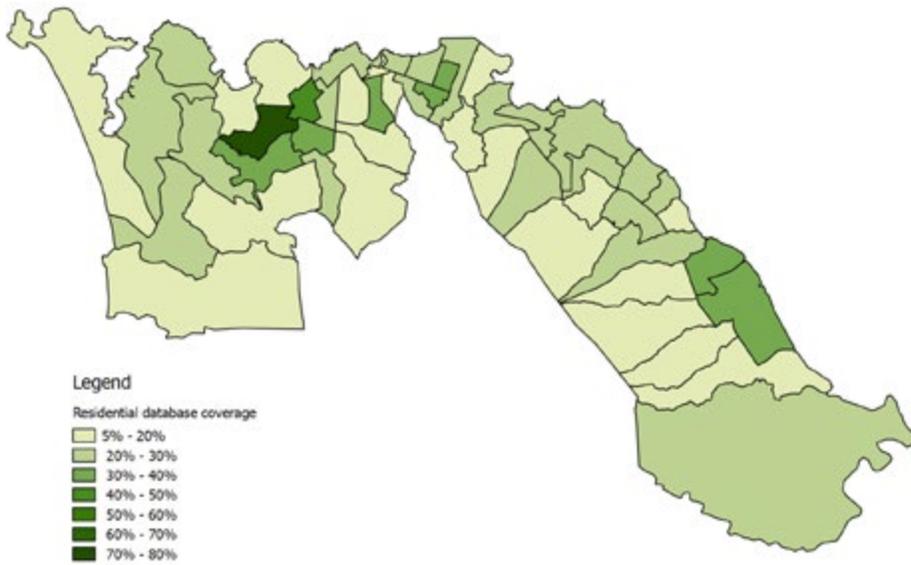
Figure 47. Number of residential properties in FCC's valuation database



Source: Data collated from FCC's valuation database

Yet, FCC's valuation database still only covers a small portion of Freetown's actual properties. Using census data, the number of residential properties in Freetown is estimated at 227,116. This means that the property tax database currently only covers 21% of the housing stock. Figure 48 shows the database coverage across wards. Interestingly, coverage varies dramatically. Database coverage is best in the central sections of Freetown. Some wards, like Tengbeh town (ward 381) has 80% coverage. While impressive, this is largely linked to the small number of people and houses in the ward. More important is the low coverage in both the East and West areas of Freetown. This suggests a need to improve coverage in those areas.

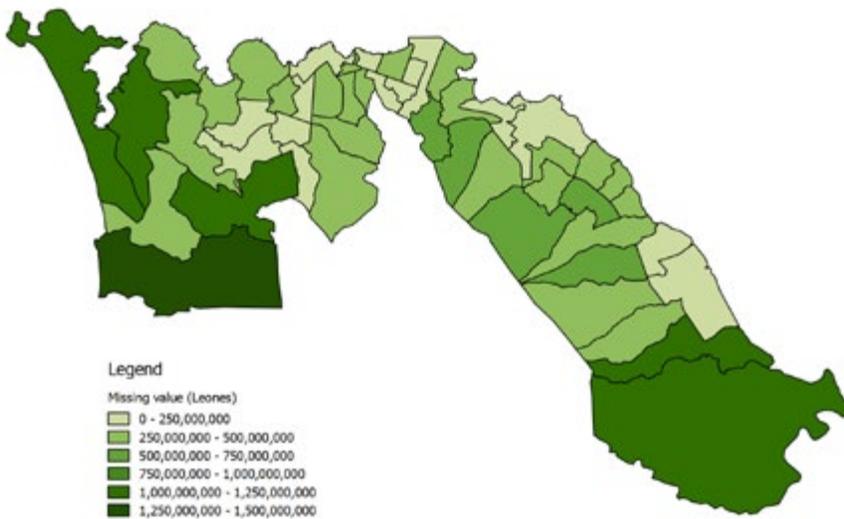
Figure 48. Database coverage



Source: Authors’ calculations based on FCC valuation database and Sierra Leone 2015 census

East and West wards are crucially important when considering average property tax values. Missing property tax values calculations for each ward demonstrate the scope for increasing tax revenues across the city – see Figure 49. Wards in the West, for instance Malama/Kamayama (Ward 394), have the greatest potential to increase aggregate property value. These wards have both high average property tax values and low coverage. This suggests if the database were to be expanded, the West would be the lowest hanging fruit.

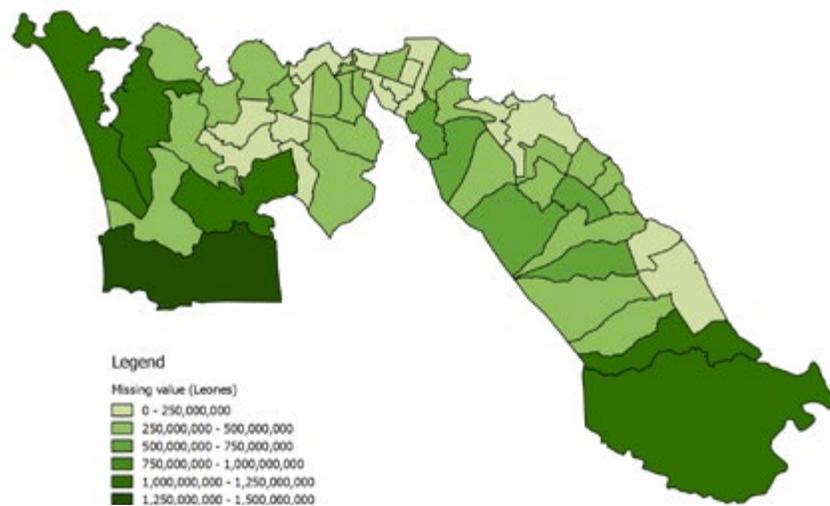
Figure 49. Wards where FCC has the largest potential to increase residential property taxes



Source: Authors’ calculations based on FCC valuation database and Sierra Leone 2015 census

Database coverage of commercial properties is largely focused around Freetown’s central business district. Figure 50 maps the number of commercial properties in FCC’s valuation database. Most of these properties are concentrated in and around Freetown’s central business district. Unlike residential properties, census data does not cover commercial properties; thus it is not possible to assess the database’s coverage or missing values. However, by mapping commercial property data, it appears that the database does not capture the growing commercial activity in Freetown’s West. Especially, between Congo cross and Aberdeen. Commercial property tax is more lucrative than residential tax. Despite commercial properties making up only 12% of the number of properties in the database, it makes up 45% of the entire value of the database. Thus, increasing the number of commercial properties paying property tax would be another cost-effective strategy.

Figure 50. Tax potential in the West – Number of commercial properties



Source: Data collated from FCC’s valuation database

Coverage issues are also compounded by quality issues. The database has only recently been digitized. This is a crucial first step, and more work to check the quality of the data will be important moving forward. Moreover, due to the cost of staff expenses the Council focuses only on adding new buildings to their database rather than re-assessing existing valuation. The last comprehensive re-assessment of property values in Freetown was conducted over 20 years ago. Re-evaluations are crucial for adjusting valuations and updating property ownership details. Additionally, the valuation methodology is area-based which is considered best practice for low capacity environments⁴⁹. Although, unlike other area-based valuation, additional value is added or removed based on property features. This has led to a process which leaves a lot of discretion for valuers. Finally, the speed of valuation is good (average 1-2 days); however, what slows the process down is determining ownership, which can take up to a month. Currently, the MoL does not provide FCC with proof of land ownership, so the Council must rely on property owners to provide ownership credentials.

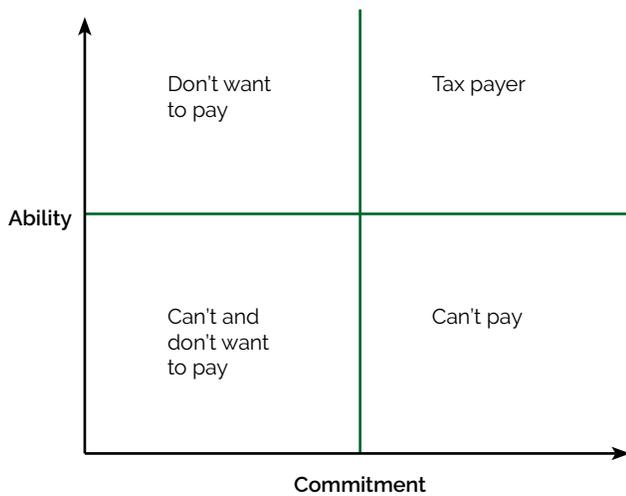
⁴⁹ Ali, M. et al (2017). Property Taxation in Developing Countries CMI Brief, 16:1; Monkam, N. Moore, M (2015) How property tax would benefit Africa, Africa Research Institute

Collection

Efficient collection of property tax is a pressing issue for FCC. As noted earlier, amounts collected have been declining since 2014. Disaggregated data on collection have yet to be fully digitized, so a spatial analysis of collection issues is not yet possible. However, FCC's collection challenges are obvious and myriad. Although the FCC has been proactive in improving the ease of making payments and the legitimacy of the billing process, the council still struggles with tax compliance.

The literature on tax compliance focuses on two factors, tax payers' Ability to pay and their Commitment to pay⁵⁰. An ideal tax payer will have both high levels of ability and high levels of commitment to pay. However low compliance occurs when taxpayers either have little ability to pay (*can't pay*), no commitment to pay (*don't want to pay*) or a combination of both – see Figure 51 for a graphical representation of this framework.

Figure 51. *Can't pay or won't pay - a framework for thinking about tax non-compliance*



Identifying the driving forces behind non-compliance is crucial for reforms to address underlying causes. The sharp decline in FCC's property tax revenue over past three years suggests a citizenry less committed to paying taxes. There are number of reasons for people with low commitment to stop paying tax. Firstly, there are those who are withholding tax out of principle. This group may be motivated to not pay tax if they feel the local government does not have adequate legitimacy, or they feel that their taxes are not translating into satisfactory urban services⁵¹. It is likely that Freetown's more wealthy citizens withhold their tax payments for these reasons. This perspective was corroborated by senior FCC staff who noted that past council scandals and weak service delivery were driving down compliance. To improve compliance in this group, FCC will need to strengthen its capabilities in effectively communicating how and where tax revenue is being spent and to demonstrate to the citizenry that taxation is leading to improved services.

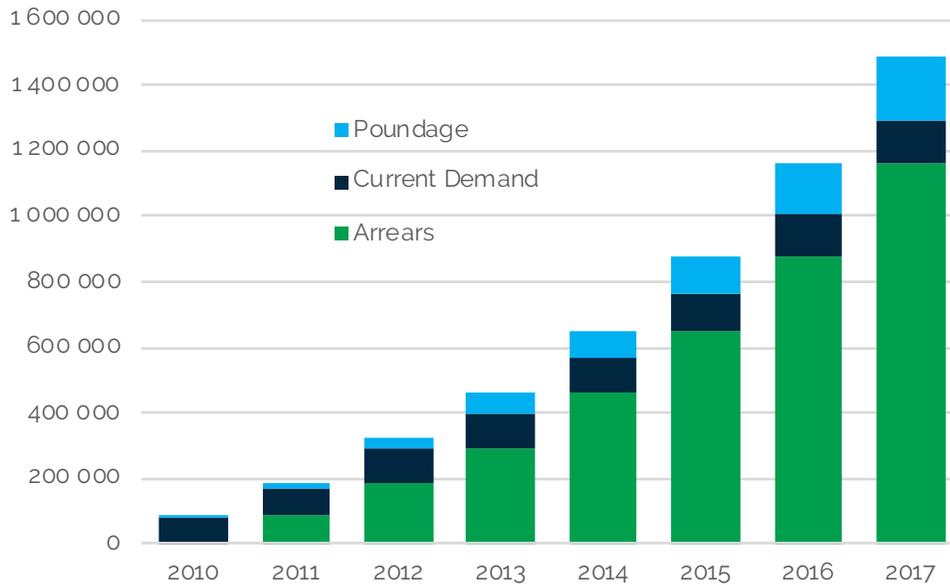
⁵⁰ Dominy, N. Kempson, E. (2003) Can't pay or won't pay: review of creditor and debtor approaches to non-payment of bills Personal Finance Research Centre, University of Bristol.

⁵¹ Ibid

Another group which may be withholding tax intentionally are those who are exploiting the system. This group include people who deliberately avoid taxation payment if it is possible. The size of this group is linked to the quality of tax collection enforcement – which FCC struggles with. In Freetown, rate payers have three instalments to pay their rates. Failure to pay up to a third of the total owed attracts a 5% poundage fee which is added to the total amount. If a tax payer fails to pay, a warrant can be issued. However, before warrants are issued, the bailiff prepares informal warning notices. Failing to pay after the issuing of the notices, warrants are then issued. However, after discussing with several staff, warrants are rarely used. Failing to pay after a warrant is issued, the owner has 21 working days to pay the full amount. If the tax payer does not respond, and if the property is occupied by a tenant, a second warrant is issued to the tenant. The tenant is instructed than to pay the outstanding rate amount and deduct this cost from their rent. If payment is not provided after the issuing of warrants, FCC is legally allowed to sell all movable assets within the property. This almost never occurs. Instead the Bailiff locks the property up and attempts to humiliate the property owner/tenant with notices and ringing bells. If payment is still not paid after 6 months, FCC can take the owner to court for the sale of the property to recoup arears. This has never happened. In practice, it is extremely difficult for FCC to collect on arears. Typically, an informal deal is arranged where a portion of the amount owed is paid. Weak enforcement leads to a vicious cycle - the more people who believe they can get away with not paying incentivizes future non-compliance. FCC will need to strengthen its tax enforcement to deal with this threat to tax collection.

A lack of ability to pay property tax may also be driving tax non-compliance. Freetown's per capita income is low, and there may be a considerable financial constraint to paying property tax. However, FCC's property rates are also low. The average annual property tax rate is only US\$ 14 per year. A more plausible issue which may be driving down citizen's ability to pay is the issue of outstanding arrears. Data from the FCC rates office shows that some accounts have held growing arrears with the council for over two decades. Arrears data is yet to be fully digitized, so it is not possible to do a full-scale analysis. However, discussion with many officers highlighted the issue of poundage. Given the scale of FCC's arrears, the city's poundage is having little effect on deterring non-compliance. More worrying is that poundage may be pushing more people from *not wanting* to pay to *can't pay*. Figure 52 is an example account which has not paid its property tax for over seven years. The graph shows that even if the tax payer could pay the initial amount, after 3 or more years, the poundage which has accrued may make it impossible for the taxpayer to pay in full. The effect of poundage may not deter non-compliance and at worse forcing future non-compliance for tax payers with a low ability to pay.

Figure 52. Account Example – Arears quickly become impossible to pay



Source: FCC rates office

FCC’s recent revenue reforms are promising but need to go further.

Since 2016, FCC has experimented outsourcing collection functions to private companies. In 2016 SMBJ was contracted to collect arrears, and in 2017 contracted for billing in the Eastern section of the city, while CRA was contracted to bill in the Western half of the city. A third company, Magic, was contracted in 2017 to collect arrears in Freetown Central. While using the private sector for these functions shows promising policy experimentation, the results have not been encouraging. Each contractor underperformed on the amount which they were projected to collect. FCC management is now considering how best to re-adjust where companies collect to maximize their collection and cost for FCC. For instance, this might involve moving CRA to collect in the East with SMBJ because the West is much easier for FCC to collect from. Discussions with private sector companies also highlighted that they were frustrated with the rules imposed on them. One company explained they were unable to fully employ their automated system due to resistance from FCC staff.

Freetown's capability to mitigate – enhancing FCC's urban planning functions to reduce environmental risk

Effective urban planning and land management is crucial for mitigating the effects of environmental disasters. A lack of regulatory functions in these areas has led to two worrying trends in Freetown's recent expansion. Firstly, the continual expansion of informal settlements in environmentally high-risk zones. And secondly, increasing housing development on steep land which has consequently increased the likelihood and severity of landslides. Responsibility for urban planning and land management is unclear in Freetown. Key regulatory functions, such as zoning, development approval and building approval was meant to be devolved to FCC as per the LGA – this is the case in all other city councils Sierra Leone. However, decentralization has been implemented in a unique way in Freetown. Land and urban planning functions for the capital currently sits with the Ministry of Land and Ministry of Works, and FCC has little or no say. Crucially, these planning functions are currently not being adequately implemented. This is cause for a reassessment of how FCC can re-engage in these functions. Importantly, FCC will need to enhance its capabilities in these functions to ensure it can play a more active role in ensuring key urban and land regulations are carried out.

The way in which decentralization has been implemented in Freetown has not been consistent with other cities in Sierra Leone. Institutional barriers are exacerbated given Freetown's unique role as Sierra Leone's capital city. As the country's capital city, all central ministries and the executive branch are located within the city. Proximity appears to influence Freetown's management. Freetown is an important city, in terms of the country's economy and politics. As the primary hub of economic activity for the country, Freetown houses much of Sierra Leone's commercial interests. While difficult to observe directly, the combination of commercial and institutional interests likely shape how urban functions are carried out on the ground⁵².

Decentralization is a process which should be tailored to the context of local governments. However, delineation of power and responsibility should be made clear so to reduce inefficiency. Much analytical work has been carried out to understand Sierra Leone's decentralization process⁵³. These research pieces have highlighted the reluctance of central government ministries to cede responsibility and power to the local councils. The tense relationship between central government ministries and local councils has subsequently played out through weak autonomy.

52 Jibao, Prichard (2015) 'The political economy of property tax: explaining reform outcomes in Sierra Leone

53 (2009) Zhou, Yongmei. Decentralization, Democracy and Development – recent experience from Sierra Leone. World Bank. (2010) PEFA Subnational Governments. World Bank. (2014) Edwards, Benjamin; Yilmaz, Serdar; Boex, Jamie. Local Government discretion and accountability in Sierra Leone, Urban Institute center on international development and governance.

Currently FCC's regulatory authority for urban planning and land management is constrained. The LGA outlines that town planning, land surveying, land registration, preparation of building plans and issuance of building permits should all be delegated to local councils. These functions however are yet to be transferred to FCC. Land surveying, land registration and urban planning for Freetown are held within the Ministry of Land while the preparation of building plans and issuance of building permits are held within the Ministry of Works. Reasons for not delegating these functions have been the lack of FCC's capability to carry out these functions. Furthermore, despite these functions being fundamental to the management of the city, it is currently unclear how FCC participates in implementing these functions. Additionally, the lack of adopted and enforced land-use plan has further contributed to unplanned development that has often occurred in high risk areas. The lack of efficient coordination between Government Ministries responsible on land management and issuing building permits has led to urban expansion zones taking place in protected areas which has further added to deforestation, which is contributing to environmental degradation and increased storm water run-off. There is a role that FCC should undertake is the enforcement of no build zones especially in flood prone areas and areas at highest risk to landslides.

Housing is another example of one of FCC's unclear mandates. The LGA gives local councils the right to acquire and hold land. The Act also gave councils the responsibility of creating and improving human settlements. However, the 2006-2016 National Housing Policy defines government's role in the provision of housing as a *'facilitator... providing inputs and incentives for effective participation of the private market'*⁵⁴. Subsequently, FCC plays no substantive role in the development of residential space. Instead the Sierra Leone Housing Corporation (SALHOC) has primary responsibilities and resources for the development of residential areas⁵⁵. Thus, as per the Housing Policy, FCC's primary role regarding the housing sector is one of enabler⁵⁶. Yet, FCC's unclear urban planning functions make the responsibility of enabler impossible.

In lieu of a comprehensively devolved urban planning function, FCC conducts 3-year development plans. These plans identify investment priorities and policy reform agendas through a needs assessment from the ward level up. The current development plan (2016-2018) focuses on 6 areas:

1. Provision and improvement of infrastructure and utility services for markets;
2. WASH facilities and liquid and solid waste management;
3. Health sector;
4. Basic education;
5. Effective revenue collections and management;
6. Urban agriculture.

⁵⁴ Thomas (2006). Sierra Leone National Housing Programme, 2006 to 2016. Freetown: World Bank.

⁵⁵ SALHOC: <http://www.salhoc.sl/salhoc-who-we-are.html>

⁵⁶ Centre for Affordable Housing Finance in Africa: <http://housingfinanceafrica.org/countries/sierra-leone/#>

It is difficult to assess FCC's progress toward achieving its development plan. While a monitoring and evaluation framework was created to measure progress, the council has not been monitoring progress. This is likely attributed to a lack of M&E capabilities in the council and staff changes in key positions. It is also unclear whether the development plan has been effective in shaping budgeting decisions. Based on the fiscal size of these focus areas, health and basic education receive the largest attention in the budget. However, these expenditures are almost entirely facilitated through central government transfers. Consequently, it is unlikely the development plan has a great deal of impact in the budget of these areas. It is additionally unclear if development plans are informed by hazard mapping or with disasters risk management considerations.

There are a number challenges for FCC's development planning. Firstly, the development plan, outside of health and education, is funded largely through own source revenue or through donor assistance. FCC's own source revenue, whilst increasing over a five-year period, is below what it is expected its potential could be. A lack of revenue constrains what development projects the council can pursue. Funding is also subject to political interference, with the political arm of the council focusing on short-term priorities popular with their constituencies and power bases. It is crucial for FCC to strengthen its planning capability. Not only will strong planning lead to more efficient and demonstrable public spending but will also showcase to both central government and Freetown citizens that FCC can handle increased responsibility – especially regarding the urban planning functions mentioned above.

Past investment in FCC's urban planning capabilities has not been sustained. Between 2009-2014 the European Union supported FCC and MoL in an urban planning project. The project included an array of activities, including: GIS mapping of services and properties, revenue mobilization strategy, Freetown Structure plan, and an Environmental assessment. While the project was successful in providing many key knowledge products, it did not lead to any urban redevelopment, sustained capacity building, increased revenue collection or longstanding institutional reform⁵⁷. The urban project demonstrates several lessons crucial for further work in urban planning in Freetown:

- a. Internal resistance to reform** – One of the key objectives of the Urban Planning project was to leverage new GIS technology to improve the discovery and compliance of the collection of property rates. However, four years after the project the FCC valuation team have rejected these techniques. Resistance to using GIS technology can be related to many factors. Firstly, the valuation office in charge of the discovery of properties liable for property tax are still using a manual process of collecting property information. In interviews with several FCC staff members, there was also a view that the valuation office was entrenched in its way of operating.
- b. Weak urban planning capacity and ability to retain key skills** – There are currently no qualified urban planners working at FCC. A significant section of the urban planning project was aimed at training a cadre of staff in key urban planning skills. However, once the project was finished, FCC was unable

⁵⁷ The urban planning project was the first phase of a larger EU project which was meant to implement key urban redevelopments, however project funding was cut by the EU. The reasons why phase 2 was not implemented is not clear.

to maintain payments to most of the newly trained staff. Consequently, owing to low salaries, along with weak planning traction, most of these trained staff have left FCC.

- c. Low political will for urban redevelopment** – After the urban project a structural plan was completed. Using the data collected throughout the project, this plan identified many areas for urban redevelopment. However, the plan has yet to be accepted by central ministries and the sites for redevelopment have had no investment. Many staff noted a lack of funding and weak political will was the key bottleneck preventing investment in these identified sites.

FCC's weak capabilities explain partly the lag in devolving urban and land management functions. This is understandable given the existing capability and the weakness of past reforms. However, these functions are not being implemented fully even by the central government. Zoning of the city is not being enforced and land registration and building permit systems have weak compliance. This has led to a proliferation of unplanned development in Freetown. Given FCC's proximity to its constituents, the council is often blamed for inaction. Ultimately FCC is a central stakeholder in Freetown's urban development. Consequently, increased coordination between central ministries and FCC to ensure implementation of these functions but also involving FCC as a way of building technical capabilities.

The need for better institutional coordination was a recurrent theme across stakeholders in Freetown. There are many public and non-state actors who are influential in Freetown's urban functions. MoL plays an influential role it controls land sales and surveying, zoning and planning approvals. Currently, there is little coordination between FCC and MoL. The council does not receive data or advice from MoL on upcoming developments which would be important for the councils' future planning or own source revenue. Planning approvals are a key function which appears to not currently be operating but is essential for FCC to be involved in the future. MoL is preparing for future reforms in land registry and land cadaster system. It will be important that these reforms involve FCC so that institutional coordination can be streamlined.

With the new administration in FCC taking office this is an opportune moment to re-engage with citizens and for the FCC to build political capital by adopting a participatory planning approach. Many initiatives and ongoing studies on various sectors are generating a wealth of data and knowledge. The objective of this study is to help FCC to identify and prioritize policy reforms and investments to improve Freetown's livability and lay a foundation for future resilience. Engagement with communities will be crucial to demonstrate willingness to listen, and work with local stakeholders, which in turn will build citizens willingness to pay for services such as solid waste management.



chapter
4



How to unlock opportunities?

To deliver on Freetown’s potential, purposeful and bold policy is needed from the incoming government. This review prioritizes key reforms, policies and investments to help unlock the city’s potential and manage risks for the future. Policy options provided are supported with examples of what’s worked in other low-resource, capacity-constrained environments. Clear and marketable land rights will allow the transformation of land-use as the city develops. These, along with facilitation of investments in infrastructure using public funds but also leveraging private investments will underlie the foundations for a city dense with people and capital. Freetown City Council can also increase its scope for managing risks and making investments in development infrastructure by improving its property taxation system – improving both, its coverage and collection. And finally, integrating risk reduction measures into development and policies will be central, including for urban planning and construction practices.

Reform land use and invest in infrastructure to manage density

Currently, land is not being used effectively in Freetown; instead of generating productive clusters of activity, the city continues to sprawl outwards through informal settlement. This dysfunctional process is due to the lack of clear land rights.

Confused land rights

For a city to generate productive clusters of activity, land rights need to be both secure and marketable. Doing this is probably the single most important economic policy for the new Government. Secure land rights enable owners to make substantial and long-lasting property investments. Without security of ownership, commercial property investments are often not made, and residential investments are only made in temporary, single-story structures. Nobody wins⁵⁸ from the stalemate of confused ownership manifest in contested claims to land, because nobody can risk building valuable structures on land that might be claimed by several other people. The result is a city that cannot generate commercial clusters, and only generates residential density through crowding into shacks.

Marketable land rights enable people to transfer of land the ownership of a plot of land to the person or firm who will use it most productivity.

Through land markets, firms can buy up land to form productive clusters, and land use can transform as the city develops. Without marketable land rights, the city's land use freezes up and the city gradually becomes a vast museum of a long-past era, rather than a dynamic economy. Prime central land cannot be transferred to more productive uses, resulting in a massive waste of productive potential. An example is Kibera, the vast slum area of inner-city Nairobi, where the inefficient use of land is estimated to have cost US\$ 1bn.

Owing to the high costs of property transfers, overall revenue from the fee is probably lower than it would be if far more transactions were included.

Further, since there is a public benefit from registration, there is a good case for government to set the fee at below cost. Individual owners are often reluctant to pay the costs associated with formal land registration and effective administration. However, the public benefits of these are enormous: secure and marketable land rights that are legally enforced underpin a city's ability to provide connectivity, as well as the ability of governments to tax land for the public good. Government funding is therefore appropriate to capture these benefits. The significant initial investments in land registry and administration is *a long-term investment in future revenues*, enabling large and increasing long-term revenue flows through broad-based land taxation. As part of Ghana's 2002 Land Administration project, for example, substantial investment was made in computerizing land records and decentralizing deed registries. The result has been a decrease in the average time to register property transfers from 169 days in 2005 to just 34 days in 2011, and an increase in land-related revenue from US\$ 12m in 2003 to US\$ 132 in 2011⁵⁹.

58 Perhaps with the exception of disreputable lawyers and surveyors committing fraud in land transactions.

59 Frank F. K. Byamugisha, *Securing Africa's Land for Shared Prosperity: A Program to Scale Up Reforms and Investments* (The World Bank, 2013), <http://elibrary.worldbank.org/doi/book/10.1596/978-0-8213-9810-4>.



Land Regularization

Rwanda's 2009 Land Regularisation Programme, that formally registered almost all land in the country in the space of five years, used innovative community-based conflict resolution and mapping procedures to resolve competing ownership claims and keep down costs. As a result, land in the country was surveyed at a cost of \$6 per parcel, compared to up to \$3,000 per parcel for individual cadastral surveys in other contexts. Alongside reforms to streamline land administration, this programme has greatly enhanced Rwanda's investment environment. Rwanda's

Doing Business ranking for ease of property registration went from 137th in the world in 2004 to 4th in 2018. Furthermore, because of formal land registration, land-related government revenues increased over fivefold from approximately RwF 2bn (US\$ 3.3m) in 2011 to over RwF10bn (US\$ 15m) in 2013⁶⁰.

Source: World Bank, Rwanda Land Governance indicators, April 2014.

⁶⁰ These figures concern land lease fees, property tax, rental income tax, transaction fees including notary fees, issuance of building permits etc.

The limits of land markets and potential for active intervention: what and where?

However, land market failures mean that land rights alone will not be able to improve productive density in the city of Freetown. In some cases, it may be necessary to intervene in land markets to increase efficiency of land use.

Land acquisition

Where ownership of land is fragmented into small and uncoordinated plot holdings, the market process of converting land to higher value uses often faces a hold-up problem. Developers often struggle to assemble land because each individual plot owner has an incentive to be the last to sell, to raise their bargaining power over the developer. In many countries, the government can compulsorily acquire land for the developer to expedite this process. However, this often faces fierce resistance, particularly in a fragile state, and can come at a significant cost in compensating dispossessed owners and relocated residents. Because of these challenges, compulsory acquisition in Freetown is likely to be extremely difficult. Acquisition of land is only likely to be worthwhile in high value central urban areas where land acquisition to lease out for commercial development can create much-needed jobs in the city.

Land readjustment schemes

Land readjustment schemes, by contrast, can be an effective way of enhancing and servicing residential density whilst unlocking land for public infrastructure such as roads in the city. Under land-readjustment schemes, landowners collectively agree to pool together privately held land plots and create a new land use plan to increase efficiency of land use for the whole area. These plans include newly provided infrastructure from the government that can

service higher density development, as well as official land and planning rights – both of which massively increase the value of land per square meter. This increase in land values means landowners are willing to accept smaller plots (often up to 60% smaller) than before in exchange for this process. Governments are therefore able to retain selected, strategic land parcels for government ownership. These can either be used for the planned infrastructure investments, or leased or sold to recover infrastructure costs. Infrastructure provision is thereby self-financed through ‘land payments’ by landowners. As Seoul experienced rapid urbanization in the context of limited municipal revenues, over half of the city’s land area was redeveloped in this innovative and cost-effective way. The city’s landowners agreed to give up to 60% of their land up for the scheme - with 30% of this land going towards space for public infrastructure such as roads, and 30% going directly to the government to fund the project. The self-financing nature of these schemes mean that they offer a feasible option for policymakers in Freetown to improve efficiency of residential land use in a context of limited budgets. In Uganda, land readjustment schemes are being used to create space for roads around the city of Kampala at limited cost.

However, land readjustment schemes are fundamentally underpinned by a large amount of trust in the implementing institution. Owners need to be willing to give up substantial portions of their land in the hope of higher value plots in return. At the same time, effectively implementing land readjustment programs require strong institutions with the capacity to implement better planning. Angola offers a striking example of two diverging experiences with land readjustment based on different institutional structures. In one successful scheme, the local government was not only responsible for implementation, but also received the land payments required for financial sustainability. However, in a second scheme, the municipal authority was not able to collect land payments itself. This resulted in underfunding, under-capacity, and ultimately corruption as wealthy landowners gained lobbying power over the land replotting process. These landowners used the readjustment scheme to increase their landholdings, without affecting any notable improvement in overall neighborhood infrastructure or layout. As such, this is more likely to be a longer-term policy for Freetown that can form part of a wider narrative around empowering existing communities to improve land use. This can be more effectively implemented once public trust is gained in the government’s ability to provide infrastructure and fairly distribute resources among communities.

Infrastructure to manage density

Active investment in enhancing density in the city will need to be accompanied by supporting infrastructure and enforceable land use regulations against harmful development. As described at the outset, Freetown’s urban population increase has been spectacular. This rapid growth has outpaced the ability of policy to provide the supporting infrastructure required for rising productivity and livability. Infrastructure in the city is struggling to support current density levels - if density is to increase further, this creates an even greater need for supporting infrastructure. Improvements in infrastructure for water, sanitation, and waste collection are particularly important in improving livable density. Currently, only 22% of residents have access to improved, private sanitation facilities⁶¹, and only 40%

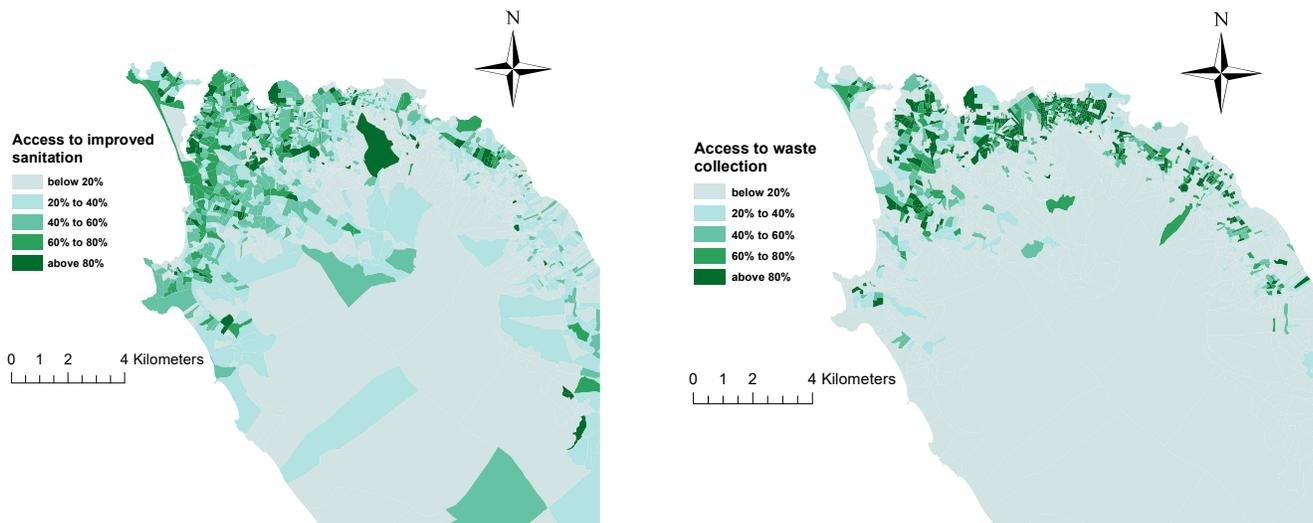
61 WHO and UNICEF define improved sanitation as either a flush toilet, connection to a piped sewer system, Connection to a septic system, flush pit latrine, pit latrine with slab, ventilated improved pit latrine or composting toilet. Shared facilities are not considered to be improved.

of the city's waste is collected. Only 3% of urban households have access to piped indoor drinking water, with 39% of households instead relying on public taps⁶².

Whilst Sierra Leone has plentiful supplies of water, the transmission and distribution of water in the city remains poor. 40% of treated water in Freetown is lost through leakages, whilst informal and unmetered connections lead to further losses. Tariffs are a third of the level in similarly water-abundant countries. This has rendered cost recovery impossible - resulting in bad equilibrium of poor service, poor coverage and low willingness to pay. Getting out of this bad equilibrium in Freetown is entirely feasible. For example, cheap new technologies enable leaks to be detected rapidly and precisely, so that maintenance can be targeted. The financial sustainability of utility operators can be improved through raising tariffs and installing usage meters. People are generally willing to pay for good quality access and this has been integral to transforming water utilities in many African cities.

By contrast, although the benefits of sanitation and waste collection services to society are massive, the benefits to each individual user are small relative to the cost of connecting to the system – see Figure 53. One person's waste discarded, or sewage uncollected, becomes another person's health problem. The only ways in which this can be overcome are through a combination of substantial public funding for waste and sanitation, and strict enforcement of regulations requiring connection to the public system. Without these policies, density leads to diarrhea, cholera and other infectious diseases. Historical experience from cities in the West shows that significant public investments were required to finance the initial construction of urban sewerage systems; similarly, waste collection has typically been financed through property taxes, not user fees.

Figure 53. Access to improved sanitation and waste collection (% of households)



Waste management % is the percentage of households whose waste is collected by a public or private company (rather than dumped, buried or burnt).

Toilet quality % is the percentage of households with access to flush toilets.

Source: Census 2015

62 Statistics Sierra Leone, '2015 Population and Housing Census, Sierra Leone'.

Given the pressing service delivery needs but limited public purse, partnering with or facilitating entry of private enterprises is one way to address the challenge. Private sector presence is often readily available for middle and upper income neighbourhoods, but the challenge has been in getting their presence in poorer and more-risky neighbourhoods. However, across Africa, in low income areas where frequently public infrastructure services are absent and rather costly to install due to existing density, social enterprises have developed decentralized business solutions that help address these service needs and with the additional benefit of creating much needed jobs in the community. For example, to address the sanitary removal of human waste from the slums of Nairobi, Sanergy in Kenya has developed a business franchise of serviced toilets. Sanergy builds toilet stalls in the slums and sells them to micro-entrepreneurs – often women who live nearby—who run and maintain the toilets, including charging clients a fee for the toilet use. The microentrepreneurs, or as they are known, Fresh Life operators, are given business training and must maintain the standards of the franchise, such as providing toilet paper, soap and water for washing, sanitary bins, mirror, and a clean toilet. These diverted toilets provide a safer, cleaner, more dignified experience than the public latrines, and Fresh Life operators often recoup their investment within 6 months. Waste from the toilets is hygienically collected daily by Sanergy, and disposed in a proper manner. In 2017, over 5,000 metric tons of waste was collected and removed from the slums.

There are other last mile business models that can improve the value of poor underserved neighbourhoods, including improving access to clean water through decentralized water treatment kiosks, off-grid energy access, and waste management models. The government can help enable and encourage such enterprises to locate and service these neighbourhoods, thereby immediately addressing pressing service needs and improving the standard of living of the residents.

Strengthen city finances and invest in city capability

Freetown City Council has limited fiscal scope to deliver key investments to manage environmental risk and growing density. Increased grant assistance from central government is unlikely. FCC must leverage its financial scope further by improving its property taxation system. Sustainable council finances are crucial if the council is to invest in an environmentally sustainable future for Freetown. FCC as the local government of Sierra Leone's largest city, has untapped own source revenue potential. Effective tax reform is a difficult task for all municipalities, but not impossible. Freetown's continental neighbors in Kampala and Lagos are good examples of how cities have managed to reform their local tax systems – see Box 9. A key area for FCC to develop is to strengthen its property tax coverage and collection:

1. **Coverage - Increase valuation in Western wards.** Analysis combining FCC's valuation database and Sierra Leone's most recent census, identified Western wards as a key area which the valuation could expand its coverage. While similar data was not available for commercial properties, it is likely that FCC's valuation process has yet to address the growing economic activity in Aberdeen and areas west of Congo cross. In the long-term the quality of FCC's valuation database will need to be improved. A re-assessment of valuation should be conducted alongside MoL's investments in renewing Freetown's cadaster system.
2. **Collection - Strengthen communication, enforcement and analysis of arrears.** Analysis, decomposed non-compliance into smaller groups requiring separate policy actions to improve compliance. Tax expenditure communications will be crucial going forward to convince those in Freetown how can pay property tax but don't out of protest. These communication efforts should focus on the legitimacy of the council, its recent reforms and the effort it is making to address citizen's concern. Taxation enforcement needs to be enhanced to reduce the number of people exploiting the weak system. Currently, the Council has not employed any of the legislative and legal powers given to enforce compliance. The issuance of more warrants is an easy first step to revitalize FCC's enforcement agenda. Finally, arrears are potentially pushing more people into a position which they have no ability to pay their tax. FCC is legally unable to wipe arrears, however after the Council digitizes its arrear information, it will be important to analyze fully the arrear data and adjust policies to avoid long-term arrear debt.



Successful examples in municipal tax reform

Leveraging the most out of property tax is a common issue for cities across the world. In low-income countries property tax on average raises 1% of GDP, in African countries property tax contributes on average less than 0.5%⁶³. However, despite consistent difficulties across sub-Saharan Africa, there have been a handful of successful reform efforts. These examples show that even minor reforms to taxation administration which address political and administrative challenges can dramatically expand municipal revenues.

Kampala⁶⁴: Prior to 2011, the Kampala municipal government struggled with administering an effective taxation system. Challenges included unreliable manual databases, unclear procedures, narrow tax base and weak collection procedures. This resulted in low revenue collection and poor

tax morale. City government pursued many reforms and managed to increase its own-source revenue by more than 100% in four years. A key lesson from Kampala is that the reforms focused on specific areas which the city government could influence and bring about short-term results.

Lagos⁶⁵: Reforms to broaden the tax base and enforce collection for Lagos have helped the state government increase public revenues five-fold. Crucial to Lagos' success has been improving the trust of tax payers. Communication efforts focused around showing tax-payers that tax was being well spent through highly visible and popular infrastructure projects such as road improvements. The Lagos government also pursued tax payments by all owners, including the well-connected economic elites. This not only further increased tax revenue but importantly demonstrated a transparent and fair tax system.

63 Ali, M. et al (2017). *Property Taxation in Developing Countries* CMI Brief, 16:1; Monkam, N. Moore, M (2015) *How property tax would benefit Africa*, Africa Research Institute

64 For comprehensive case study see: Andema, Fred. Haas, R.N. Astrid (2017) *Efficient and effective municipal tax administration: A case study of the Kampala Capital City Authority*. Cities that Work. International Growth Centre.

65 Collier, P. et al (2017) *Land and property taxes: Exploiting untapped municipal revenues*. Policy brief. International Growth Centre: Cities that Work. London

Clarify planning mandates and build-in resilience into urban strategy

Freetown's unique position as Sierra Leone's capital city and economic center has meant that its decentralization process is unique and politically complex. This has led to many unclear mandates. An example of these unclear mandates is FCC's urban planning functions. These functions include responsibility for the regulatory framework for land use. Urban planning is a powerful force which are crucial for cities to reach their potential and mitigate environmental hazards. There are various cases where cities have used urban planning function as a framework and tool to save their cities from uncontrolled urban expansion – see Box 4. The analysis suggests future action in the following areas:

1. **Planning – Tie development planning more closely to FCC expenditure.** Key urban planning functions may not have been devolved to FCC owing to central ministry concerns around a lack of capacity. FCC's performance with regard to development planning is a case in point. While the plan itself is adequate and used best practice community engagement in its development, the plan has had little impact in directing FCC's budget. Crucially while the plan has an M&E framework, none of the plan's indicators have been measured. If FCC is to be seen in the future as a crucial stakeholder in Freetown's planning, it must demonstrate regulatory capabilities first in its development planning functions.
2. **Government coordination – Create a working group tasked with urban planning and regulatory authority over land use in Freetown.** Currently, land use zoning is not conducted for Freetown. This has led to a disorganized urban form which is at constant risk of environmental degradation. FCC currently does not have a seat at the table when it comes to urban planning in Freetown. As the local government, with the greatest revenue incentive to see Freetown urban planning regulated, it is important the council eventually take a leadership role. However, concerns of low capabilities are warranted. As an intermediate step, it is recommended that the central government creating a working group to begin to regulate land use in the capital. This working group would need to include key technical stakeholders in specific ministries including MoL and MoW, with FCC chairing the work.



The power of planning – experience in Curitiba, Brazil and Yokohama, Japan

Curitiba⁶⁶ is the capital of the predominantly agricultural state of Paraná and one of Brazil's fastest growing cities. Despite rapid growth and limited resources, the city has been able to achieve substantial improvements in its citizens quality of life.

Key to Curitiba's success has been its visionary city-planning. In the 1960s a group of young architects drew up Curitiba's city plan which deviated from plans typical in Latin America at the time. Plan ignored large and expensive projects in favour for demand driven and integrated planning solutions to the city's problems.

Housing has been a critical part of Curitiba's integrated planning processes since its inception. However, in the 1970s the city moved away from large housing projects in favour for smaller more integrated projects, which made the most of existing infrastructure and services. Crucially, each housing project is tailored to its surrounding area. To overcome a lack of resources, the city government created the Municipal Housing Fund to provides funds for affordable housing through levies charged on new development permissions.

Yokohama⁶⁷ is Japan's second largest city and sits just south of the capital Tokyo. In the 1960s

the city was experiencing rapid growth, worsening pollution and unregulated urban sprawl. The visionary mayor, Ichio Asukata, and his appointed urban planner, Akira Tamura, helped transform Yokohama from a declining and dirty port town to a thriving, attractive, modern city.

Three critical aspects characterized Yokohama's urban development over this period:

Leadership – The city created a new Bureau of Planning and Coordination, which was given advanced status and mandate to adjust plans and coordinate other institutions. The Bureau was staffed by 15 young officials handpicked from various institutions and led by Tamura who had broad experience across government.

Transparency – Cross-intuitional meetings were chaired by Tamura to resolve blockages and approve plans. Meetings where also held to gain feedback from the public and the private sector.

Community-building – The 'citizen councils' initiative was launched which engaged residents and businesses to gain feedback and update the community on district plans. Ownership from the community ensured that plans were committed to and implemented long after Mayor Asukata left office.

Critically, underpinning Yokohama's success was the city's commitment and confidence in its own capabilities. As a business executive put it: "other cities say they will do a project, but Yokohama gets it done".

66 <https://www.world-habitat.org/world-habitat-awards/winners-and-finalists/urban-management-in-curitiba-building-full-citizenship/>

67 World Bank. (2017) *Yokohama: reinventing the future of a city (English)*. Competitive cities for jobs and growth. Washington, D.C.: World Bank Group.

Failure to invest in urban resilience can reverse development gains by sending millions back into poverty. Up to 77 million urban residents could fall back into poverty by 2030 in a likely scenario of high climate impacts and inequitable economic growth (WBG Investing in Urban Resilience, 2016). This is a conservative estimate based on a US\$ 1.25 poverty line which is applied nationally and often understates urban poverty in cities. Whilst in Freetown there are many communities residing in high risk areas to flooding, coastal erosion and landslides there is more to be done to develop risk-informed planning strategies that are integrated in development plans and land-use plans. The Multi City Hazard Review and Risk Assessment for Freetown provides a series of recommendations for the short, medium and long-term to reduce exposure to risks and build urban resilience. An open online spatial platform has been established that is available to the public to enhance risk awareness, which can be integrated into decision making and land market pricing.

Therefore, integrating risk reduction measures into development and policies is central to all government planning and practices. This requires revision and enforcement of planning and construction codes for buildings and infrastructure that make them resilient to disaster risks for any new constructions, and retrofitting existing constructions not built to code. This will allow for lower damage and loss after disasters. It would also imply creating, demarcating, and communicating no-build zones, both along the coast line and in the mountains. There is a need to engage and work with communities so they map and understand their risks, development of early warning systems, including modern hydromet services, so that weather forecasts are reliable and provide useful services for the citizens of the country and for all sectors.

It is essential to shift from a reactive to a preventive approach to managing risk, because investing in disaster resilience is investing in development⁶⁸. This would entail the development of a comprehensive disaster risk management framework, including legislation and institutional capacity to enforce compliance with the laws; operationalization of the National Disaster Management Policy and implemented by a National DRM Bill for managing disaster risk and preparing for as well as responding to both disasters as well as climate change. Whilst the development of the Bill is ongoing, FCC is a crucial stakeholder. Currently the Office of National Security (ONS) is mandated to cover the responsibilities of disaster risk management and has trained 300 community based volunteers in Freetown to increase the capacity to address with emergency scenarios and disasters. It is encouraged that FCC continue to engage with the community volunteers and develop communications materials to better inform those in high risk areas, particularly during the rainy season and what emergency actions should be taken in the event of a natural disasters such as flooding.

There is additionally the need to strengthen the link between improper disposal of solid waste and the contribution to increased flood risk. There are several donor-funded studies that are currently ongoing on the solid waste management sector to improve the collection efficiency within Freetown and the disposal of the waste by exploring the introduction of sanitary landfills potential outside of Freetown. With the rapid rate that Freetown is urbanizing which deforestation and increased impermeable materials are having significant impacts on

68 World Bank (2017), Rapid damage and loss assessment of August 14th, 2017 landslides and floods in the Western Area

increasing rates of storm water run-off. The integration of solid waste management and drainage should be further explored in the cities development plans. There are also opportunities to build upon ongoing initiatives already taken by the city in this regard – see Box 10.



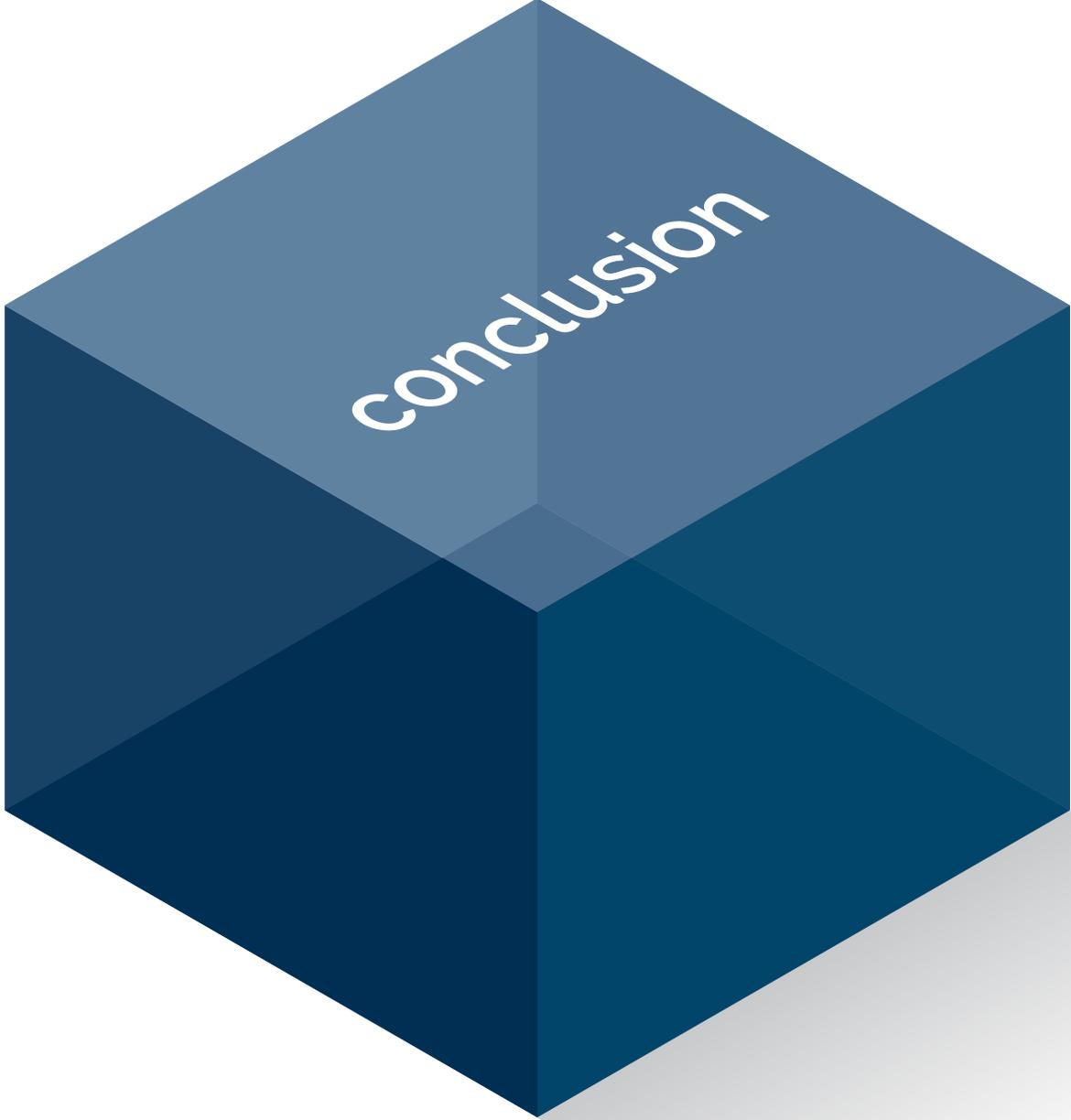
Learning from Operation Clean Freetown

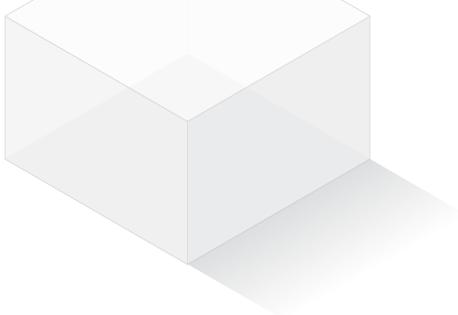
Operation Clean Freetown was a set of intensive actions, initiated in May 2017, to rapidly improve the SWM situation in the city. The operation consisted of a series of physical actions involving flattening and compacting Kingtom dumpsite, increase waste collection points in Western Area, installing litter bins in the Central Business District, equipping and training youth groups as door-to-door waste collection, requiring all households to participate in an intensive ward by ward cleaning process as well as distribution of cleaning equipment. The program was funded by the Government of Sierra Leone and UKAID and implemented by Freetown City Council and Western Area Rural District Council Freetown WASH consortium and several other ministries. The operation was launched with

extensive media coverage, and was successful in drawing attention on the critical situation of Freetown.

The latest assessment suggests that the operation was successfully, but that it lacks viability. For example, experience has shown that support to communities had to be sustained over more than 5 years to achieve basic professionalization of small enterprises. Likewise, landfill management should be considered on a permanent basis to maintain site accessibility and disposal capacity. As a conclusion, Operation Clean Freetown should become a yearly event, and be considered as a unique occasion to communicate on the City's waste management strategy.

Urban resilience is a critical element of sustainable development. Investing in resilience contributes to long-term sustainability by ensuring current development gains are safeguarded for future generations. Resilience focuses especially on learning to prepare for adapt to, and respond to the spectrum of risks that exist at the interface between people, the economy, and the environment. A lack of public participation in planning processes as well as non-inclusive regulatory frameworks can further impede the provision of urban infrastructure and service delivery to low-income communities. Weak engagement and accountability in FCC could further contribute to the lack of basic infrastructure and services, the dynamics of land markets and lack of access to safe land, it is therefore critical with the new administration in FCC to be proactive in engaging with communities and to demonstrate willingness to listen, work with and service those who lack resilience in their homes and livelihoods.





Freetown as a symbol for change

Sierra Leone needs a change of gear with the new government in 2018. To transform itself from poverty to a more prosperous future, Sierra Leone will need a prolonged phase of much higher public investment in economic infrastructure. Financing such an increase cannot depend entirely upon persuading donors and foreign investors to pay for it: they will expect citizens to accept a phase of sacrifice to demonstrate seriousness of purpose. Accepting the need to pay higher taxes will be a necessary step. Resistance to taxes reflects a coordination problem: no one is willing to pay unless they think that others will pay; nor are citizens willing to pay unless they are confident that government will spend the money wisely on productive investments. Major cities are a good place to start the process of changing attitudes: since 1998, successive Governors of Lagos have won the trust of citizens, raising city tax revenues very substantially, while using them for visible improvements in connectivity.

Similarly, in Sierra Leone changing current attitudes depends on building a credible account of how the future will be decidedly different. This has two parts.

1. **Symbolic investments** in the capital city can signal a future of productive investment and growth.
2. At the same time, **supporting narratives** allow citizens to understand that these symbols form part of a wider plan for the city and the country.

Where investments provide credibility, narratives provide explanation. Step by step, visible and popular investments build up credibility of a government that leaders are using their positions to invest in a national future, rather than abusing power to make money for themselves. The actions can then be matched with clear explanations of government economic strategy, expressed in simple terms and linked to predicted results that people will be able to see. The post-election months will be a good period to reset citizen expectations by these means, since people will be expecting change.

Policies that Sierra Leone adopts towards Freetown, its capital city, has important implications. Many countries bestow a special status on their capital cities, some on their large cities. Many adopt policies that reduce the fiscal burden on central governments. In some countries the special status elevates the Mayor to the level of a central cabinet member. Regardless of status, successful cities have an integrated budget, where earmarks from state or central levels are integrated into the local budget, with spending undertaken by the city. The city budget thereby becomes a core urban management instrument that can lead to more effectiveness and efficiency in local spending, thereby reducing sectoral fragmentation which impedes the coordination of multifaceted urban development operations. Currently, such coordination over functions like land development, housing, commercial and industrial facilities, economic development programs, and social services provision in Freetown is absent. Effective management of networked, capital-intensive infrastructure like energy, water, sewerage, and mass transit are also nearly impossible. Taken together, the architecture of governance makes it challenging Freetown to avoid the creation of new disaster risks, and manage effectively those that exist including response to shocks and recovery.

Policies that support the development of dense urban areas are critical tools in mitigating hazard risks. In such a rapidly urbanizing context, the growth of population and economic assets in Freetown will likely lead to an increasing concentration of hazard risk. Sierra Leone is not reaping the potential benefits from urbanization despite the importance of Freetown – it is just paying the costs of congestion. The importance of Freetown to Sierra Leone’s economy is clear. The unique ecological, aesthetics and recreational resources of the natural environment of Freetown are extraordinarily high, but are threatened and are at risk of total loss with high risk of impacting future long-term growth. It is not simply a matter of more resources - adjusting inputs without reforming institutions that produce inefficiencies, will not lead to sustainable improvements in Freetown. Urban management improvements will be marginal with additional resources and technical assistance, in the absence of political commitment at the highest levels.

Urbanization is critically dependent upon good public policies. Leaving the process to individual households and firms, as has been the case for the past 60 years, dooms the city to failure. If density continues to be achieved merely by crowding, the city will become unlivable with further high-profile disasters. Instead, density can be achieved by changes in land use that enable plots to be used more intensively and efficiently. The only route to enhanced use is to create land rights that are secure so that people can be confident about investments, and marketable so that land can be transferred to its most productive user. The infrastructure to manage urban density can also be provided before settlement occurs. Policies such as sites and services enable the government to plan, while enabling people to build homes that are affordable in the present.

For decades, Freetown has lacked such focused and purposive policies. The result of this prolonged neglect is visible to all: the city has become locked into low-productivity, is unprepared for natural hazards, and is increasingly a bottleneck to investment in the entire country. The new Government is a pivotal moment: a rare opportunity for smart new policies to transform Freetown into a platform for resilient growth. Freetown can become a city that works.

FREETOWN

Options for Growth and Resilience

Freetown is the capital and the nerve center of Sierra Leone. It is projected to welcome more than 535,000 residents in the next decade. Yet, despite its national importance, the city has become crowded, under-serviced and vulnerable to natural hazards. It is neither delivering on its economic potential nor is it providing its citizens the services they expect. Crucially, the city is not managing its growth, and environmental risks. Crippling floods and landslides are, and will continue to be, a constant threat.

Urbanization offers great economic opportunities, yet if not managed effectively cities and their people can succumb to the growing threat of natural hazards. Freetown is growing rapidly but is not delivering its potential. Purposeful and bold policy is needed from the incoming government. This report argues for a balanced approach – reforming land-use and investing in infrastructure, strengthening city finances and investing in city capability, and finally, clarifying planning mandates and building-in resilience into the urban strategy. Overall this review argues that Freetown has been victim of neglect – the city has lacked purposive long-term policy: the city has become locked into low-productivity, is unprepared for natural hazards, and is increasingly a bottleneck to investment for the entire country. The result of this neglect is clear. The incoming Government is at a pivotal moment: a rare opportunity for proactive urban policies to transform Freetown into a city that works.

