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Republic of Mozambique

Mozambique Urbanization Review

Accelerating Urbanization to Support Structural Transformation
in Mozambique

June 2017

GSU13
AFRICA



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MOZAMBIQUE URBANIZATION REVIEW

Accelerating Urbanization to Support Structural Transformation in Mozambique

June 2017

Mozambique – Country Management Unit
Africa Urban and Resilience Unit
Global Social, Urban, Rural and Resilience

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Box 1 Agglomeration Economies

List of Acronyms

CGE	Computable General Equilibrium
IAF	Inquérito aos Agregados Familiares
INE	Instituto Nacional de Estatísticas
IOF	Inquérito sobre Orçamento Familiar
IFPRI	International Food Policy Research Institute
IPRA	Imposto Predial Autárquico
MAEFP	Ministério da Administração Estatal e Função Pública
MEF	Ministério de Economia e Finanças
PEUM	Plano de Estrutura Urbana Municipal
PGU	Plano Geral de Urbanização
PP	Plano de Pormenor
PPU	Plano Parcial de Urbanização
SAM	Social Accounting Matrix
SPAM	Spatial Production Allocation Model
IASISA	Imposto Autárquico de SISA

Executive Summary

The Mozambique Urbanization Review aimed at contributing to the country's policy and institutional reform agenda on how to harness the full potential of urbanization to promote economic growth and poverty reduction. The study carried out in-depth analyses of the urbanization process, uncovering how urbanization has been influenced by national, regional, and international factors. It identified and analyzed key policy and institutional constraints in increasing the economic benefits of urbanization, including economic, transport, land, and decentralization policies. The study concluded that faster urbanization could increase the pace of economic growth and poverty reduction, but this should not be achieved at the expenses of investments in rural development and agriculture. However, constraints in the creation of productive urban jobs, limited connectivity throughout the system of cities, and dysfunction urban land markets have undermined its economic outcomes. Based on the main findings, the study proposed an emerging national urban reform agenda to enhance the benefits from urbanization in Mozambique focused on: (i) strengthening rural-urban linkages, including reforms to local government finances, enhancing trade and commuting flows; (ii) making urban land systems more equitable and efficient; and, (iii) deepening decentralization to provide a broader remit to municipalities for urban planning and domestic resource mobilization.

I. Faster urbanization holds the key for broad based economic growth in Mozambique

Urbanization, if managed well, can accelerate economic growth, poverty reduction, and structural change

Urban growth continues to rapidly unfold in Mozambique with increasing concentration of people and economic activity in urban areas. Figure 1.1 shows the “spikes” of economic activity around the largest cities, alongside smaller concentrations of activity in smaller towns and urban areas. Industry and formal services are concentrated in cities. This fact is reflected in urban households’ consumption patterns, which include more industrial products and services. These patterns of economic concentration are consistent with global experience. In fact, only 1.5 percent of the World’s land is home to half of its production. Tokyo and Paris concentrate over 40 and 30 percent of their own nation’s economic activity in less than 4 and 2 percent of the country’s land respectively.¹ The underlying mechanism fueling the benefits of economic density is “agglomeration economies”, which enhance productivity via three key mechanisms: transport cost savings, developing markets for specialized services, and labor market matching (see Box 1).

Figure 1.1. People and economic activities are concentrated in urban areas



¹ Kochendorfer-Lucius, Gudrun, and Boris Pleskovic, eds. 2009. *Spatial Disparities and Development Policy*. Berlin Workshop Series 2009. Washington, DC: World Bank

Source: World Bank calculations based on data from Ghosh et al 2010²

BOX 1. AGGLOMERATION ECONOMIES

By enabling “agglomeration economies”, cities can be instrumental in enhancing productivity and spurring innovation and economic diversification. The underlying reason – Density. The most basic agglomeration economy is the reduction of transport costs for goods. If a supplier locates near customers, the costs of shipping decline. In the early 1900s, New York and London were manufacturing powerhouses, places where factories located to be close to customers and transport infrastructure. And in late nineteenth-century, four-fifths of Chicago’s jobs were compactly located within four miles of State and Maddison streets, close to where people lived and infrastructure (Grover and Lall 2015). Many of these benefits increase with scale; towns and small cities cannot reap the same benefits as larger cities do. International evidence suggests that the elasticity of income per capita with respect to city population is between 3 percent and 8 percent (Rosenthal & Strange 2003). Each doubling of city size raises its productivity by 5 percent.

The density and size of cities can also create a market for specialized services including legal support, advertising, logistics and management consulting. These services are critical for young firms who can focus on their big idea and their core competence, without being encumbered by having to worry about supporting functions. The larger the cluster, the more specialized the service providers can be. Think of New York City, where a young fashion designer does not need an in-house lawyer to manage intellectual property and incorporation; and she can link with logistics firms to connect with merchandisers in Hong Kong and production houses outside Colombo.

In addition, cities are also instrumental in matching skills with job opportunities, and density allows for an integrated “thick” labor market. In fact, skills matching will gain much more importance over the next 20 years as the current generation of Mozambican children gets better educated than their parents and more intensively search for jobs that fully reward their skills. Just as many Indian children growing up to become software engineers in the 1990s lined up to move to Bangalore, where many software firms are concentrated, getting cities such as Maputo and Beira to flourish can help Mozambican children find jobs with the firm that really wants them —and will pay for their skill set. In fact, research in the United States shows that living in cities where the number of college graduates increases faster experience more rapid salary gains than workers who live in cities where the number of college graduates stagnates (Moretti 2004). This relationship is particularly strong for workers with high-tech jobs. Well-functioning cities that nurture and attract skills and enable density based interactions can help the current generation of Mozambican children lever the urban advantage.

Urban development has been an important component of structural transformation. Mozambique has witnessed an impressive record of economic growth, which, despite some reversals during the 2000s, has led to sizable reductions in poverty. Workers moved out of low-productivity agriculture into higher-productivity nonfarm jobs, such as trade and domestic work. Although many of the new nonfarm jobs were created in rural areas and some of Mozambique’s positive structural change has occurred within the rural economy, urban areas have played a disproportionately important role in promoting national economic development.

Mozambique’s cities for the economic core of the national economy. A national social accounting matrix (SAM) has been spatially disaggregated to compare the contribution of rural and urban economies. A consistent accounting framework that captures all income and expenditure flows in Mozambique during a given year, a SAM is an economy wide database that includes all sectors and households as well as the government and the economy’s interactions with the rest of the world. A 2012 SAM is used for Mozambique that was built using national accounts and agricultural and economic surveys from the national statistical agency; revenue and expenditure data from the finance ministry; and balance of payments data from Mozambique’s central bank.ⁱ National sectors and households are disaggregated across cities, towns, and rural areas using data on household incomes and expenditures from IOF09 (table 1.1). The main finding is that Mozambique’s 23 cities are engines of economic development. Even though these cities contain only 22.2 percent of the total population, they generate 51.4 percent of the national GDP. Average per capita consumption is highest in cities and is more than triple the rural average (\$1,160 versus \$336). Industry and formal services are concentrated in cities. This fact is reflected in urban households’ consumption patterns, which include more industrial products and services.

² Ghosh, T., Powell, R. L., Elvidge, C. D., Baugh, K. E., Sutton, P. C., & Anderson, S. (2010). Shedding Light on the Global Distribution of Economic Activity. *The Open Geography Journal*, 3, 148–161.

Table 1.1 Characteristics of cities, towns, and rural economies, 2012

	Rural	Towns	Cities	All
Population (millions)	15.0	1.8	4.8	21.5
Share (%)	69.6	8.2	22.2	100
Poor population (millions)	6.9	0.7	1.0	8.6
Share (%)	80.3	7.7	11.9	100
Consumption per capita (\$)	336	662	1,160	546
Poverty headcount rate (%)	46.2	37.7	21.5	40.0
Workers (thousands)	8,004	993	2,520	11,517
Finished secondary school	194	69	362	624
Finished primary school	705	123	475	1,302
Not finished primary school	7,106	802	1,683	9,591
Regional GDP per capita (\$)	352	814	1,484	641
Regional GDP per worker (\$)	659	1,447	2,817	1,199
Sector GDP shares (%)	100	100	100	100
Agriculture	62.7	21.6	3.5	28.0
Industry	8.2	42.2	22.9	19.3
Services	29.1	36.2	73.6	52.7
Regional GDP shares (%)	38.2	10.4	51.4	100
Agriculture	85.5	8.0	6.5	100
Industry	16.3	22.8	61.0	100
Services	21.1	7.1	71.7	100
Total consumption shares (%)	100	100	100	100
Agriculture	55.1	36.6	18.7	36.1
Processed foods	13.4	22.7	22.4	18.5
Industrial goods	14.7	15.3	18.6	16.6
Services	16.8	25.3	40.3	28.8
Product consumption shares (%)	42.9	9.9	47.2	100
Agriculture	65.5	10.1	24.4	100
Processed foods	30.9	12.2	56.9	100
Industrial goods	38.0	9.2	52.9	100
Services	25.0	8.8	66.2	100

Source: Authors' calculations based on Mozambique's 2012 social accounting matrix (SAM) and a computable general equilibrium (CGE) model.

Note: The poverty line is set at the upper threshold of the second per capita–consumption quintile.

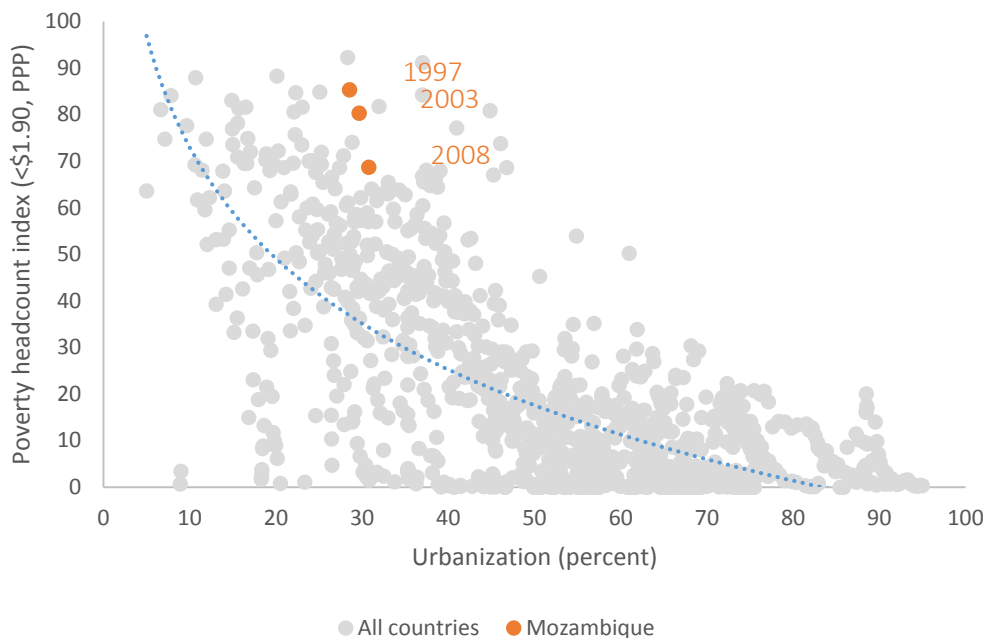
Further, towns contain 8.2 percent of the country's population but contribute 10.4 percent to the national GDP. Average per capita consumption in towns is double the rural average (\$662 versus \$336). Although a sizable share of national agricultural production occurs within town boundaries, it is the industrial and service sectors that are most important for towns themselves. About 8.6 percent of the national labor force works in towns, and about one-fifth of these workers have finished either primary or secondary schooling, which is a much higher proportion than the one-tenth of rural workers in this category. Town residents typically consume more processed

foods, while members of rural households tend to consume more unprocessed agricultural products.

Finally, rural areas contain 69.6 percent of Mozambique’s population but account for only 38.2 percent of national GDP. Per capita household consumption is well below the national average (\$336 versus \$546), which explains why the largest share of the poor population lives in rural areas.ⁱⁱ Agricultural GDP is heavily concentrated in rural areas (86 percent), with an underrepresentation of industry and services compared with the overall economy. There is thus a larger concentration of less-skilled workers in rural areas. Rural households also spend more than two-thirds of their income on processed foods and agricultural products (including meals purchased away from the home).

Since the introduction of the 1990s political and economic reforms, urban development has contributed to poverty reduction in a significant way. City growth has been associated with a 16 percentage point decline in the national poverty headcount between 1997 and 2003 (figure 1.2). In addition, the poverty headcount rate is significantly lower in urban areas than the rest of the country. For instance, in 2012, the poverty headcount rate for cities was 21.5 percent, compared with 37.7 percent in towns and 46.2 percent in rural areas.

Figure 1.2. Urbanization is associated with significant poverty reduction



Source: World Development Indicators (World Bank 2016a).

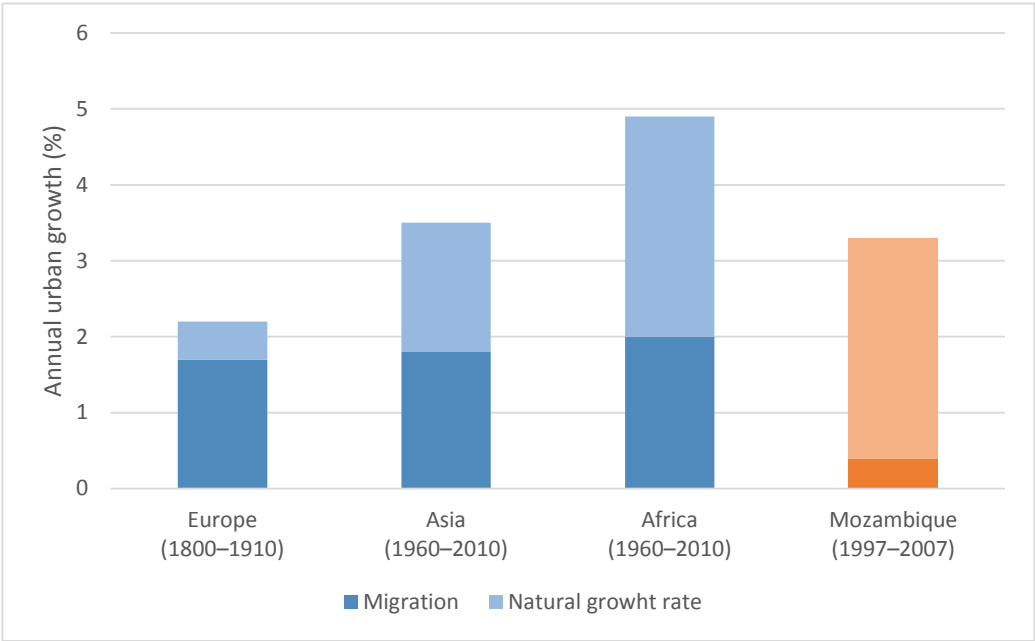
Despite rapid growth in urban employment, the urbanization process in Mozambique continues to be fairly gradual relative to the pace of urbanization in other African countries. Most future urbanization is likely to occur within major cities, even though small town populations are growing more quickly. The long-term implications of urbanization are difficult to gauge. Survey and census data reveal strong, complex production and consumption links among rural

areas, towns, and cities. These economic links and structural differences will determine the national benefits and trade-offs from urbanization. They will also influence Mozambique’s choice of whether to adopt urban- or rural-oriented development strategies.

Natural population growth accounts for much of the current increase in the urban population. Mozambique’s cities have high fertility rates. Migration from rural to urban areas explains just 12 percent of the urban population growth in Mozambique. Interprovincial rural–urban migration is currently low in Mozambique, even compared with other developing countries, reaching just 0.4 percent. For both developed and developing countries, urban growth from migration has been similar during the transition to an intermediate stage of urbanization, around 1.5 to 2 percent a year.ⁱⁱⁱ Figures for Mozambique are not fully comparable, because only interprovincial migration is taken into account; but this percentage is less than one-third of migration in other Sub-Saharan nations (see figure 1.3).

Figure 1.3. Natural growth rates explain most urban growth in Mozambique, to a higher extent than in Africa and other regions

Annual urban population growth (%)

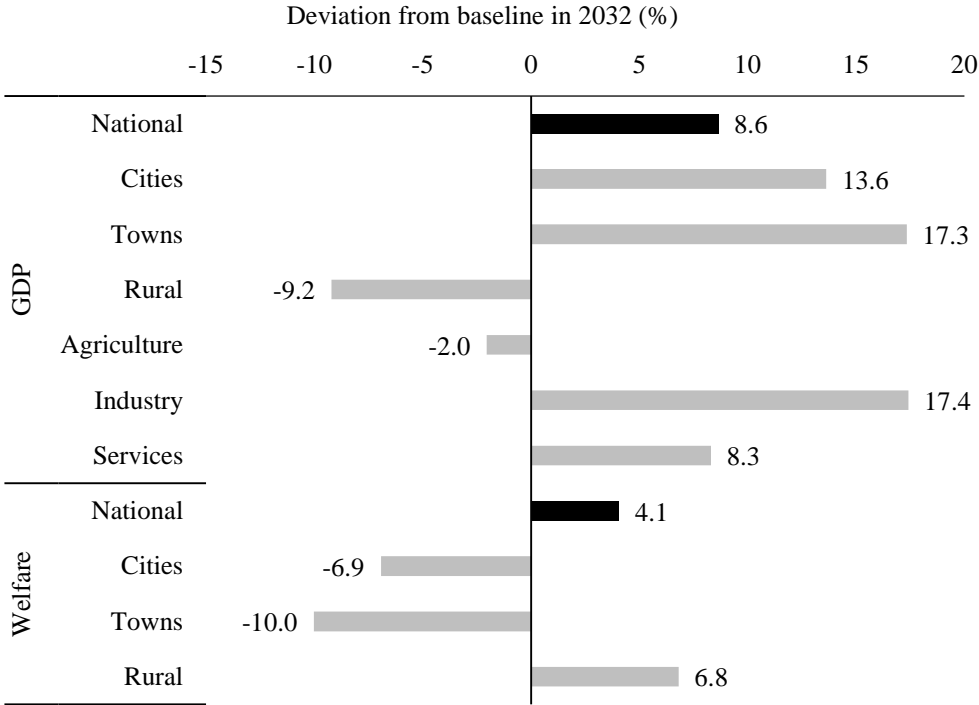


Source: Data for Mozambique is estimated from census data; other data is drawn from Jedwab, Christiaensen, and Gindelsky (forthcoming).

Faster urbanization can provide a catalyst for broad-based economic development. Based on a computable general equilibrium (CGE) model that captures the structural characteristics of and links among urban and rural areas, this study shows that faster urbanization reduces rural-urban wage differentials and generates backward links to agriculture, mainly because rising urban incomes create demand for agricultural products, almost all of which are produced in rural areas.

Policy simulations show that increasing the urban population share by 6.2 percentage points raises the total GDP growth rate by 0.4 percentage points per year. Cumulatively, the economy ends up being 8.3 percent larger by 2032 than it would have been without faster urbanization. Figure 1.4 shows this expansion in the final-year deviations from baseline for GDP and welfare outcome measures. This positive growth effect derives entirely from more people leaving rural areas for urban centers – a faster reallocation of workers from rural to urban areas.

Figure 1.4. Growth and welfare outcomes in the Faster Urbanization scenario



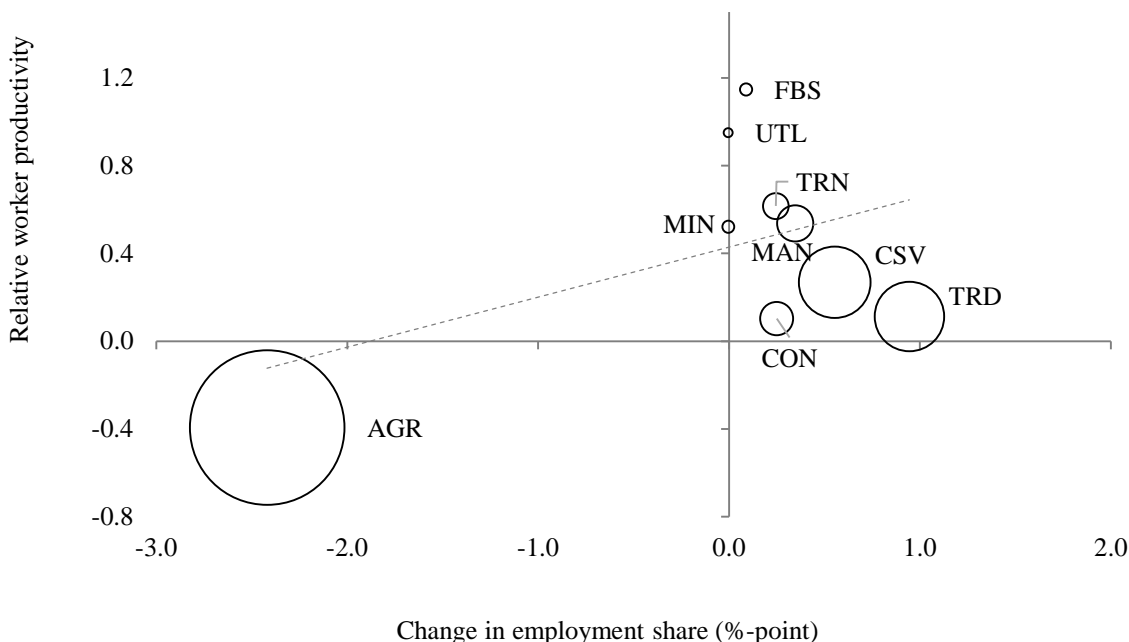
Source: Mozambique CGE model results.

Note: Welfare is measured using equivalent variation, a consumption-based measure that controls for price changes.

Additional growth resulting from faster urbanization is likely to occur in cities and towns, where economies are predicted to be 13.6 and 14.1 percent larger in 2032 than they would have been without accelerated urbanization. The rural economy contracts (relative to the baseline. Figure 1.4) in response to a slowdown in both agricultural and rural nonfarm growth. Slower agricultural growth places upward pressure on real food prices, which is then compensated for through reduced agricultural exports and increased food imports. Mozambique generates very little of its foreign exchange from agriculture, so it is under less pressure to retain workers in export agriculture in order to pay for higher food imports. In fact, rising food prices encourage farmers to reallocate lands to staple food crops, such as cereals, as well as to crops that are less internationally traded, such as vegetables. Urbanization therefore has mixed implications for agricultural transformation, as it encourages greater production of both lower-value maize and higher-value horticulture.

Faster urbanization can accelerate the pace of structural change in Mozambique. This is shown in figure 1.5. Faster national economic growth is partly due to agricultural labor migrating to urban centers to work in nonagricultural sectors (mainly trade and community services). In contrast to the baseline scenario, however, more new jobs are created in manufacturing and construction, in part because new urban residents increase demand for manufactured goods, while urban GDP growth generates greater demand for investment goods and services, such as construction.

Figure 1.5. Structural change in the Faster Urbanization scenario, 2012–2032

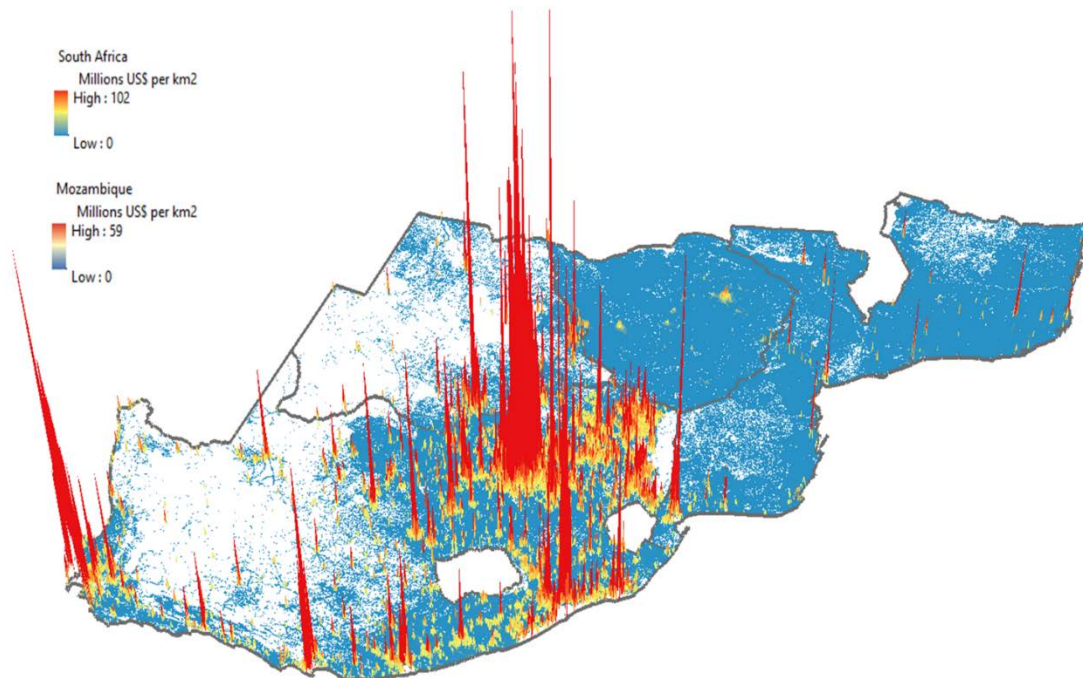


Source: Mozambique CGE model results.

Note: Structural change is relative to the baseline scenario. Size of circle represents initial employment share. AGR = agriculture; CON = construction; EGY = energy and water; GOV = public administration; MAN = manufacturing; MIN = mining; OSV = education, health, and community services; TFB = trade, financial, and business services and real estate; and TRC = transport and communication

Faster urbanization will also allow for economies of agglomeration that can enhance trade linkages with neighboring regional markets in South Africa. This will speed up Mozambique’s progress towards reaching middle income status. Figure 1.6 shows that the peaks of economic activity that are visible in Mozambique are in face small bumps in the context of the broader economic landscape. For Mozambique to cross the threshold into upper middle incomes and beyond, economic concentration will need to rise. At the same time, complementary policies are needed to ensure that the benefits of economic concentration are shared with all residents – in rural and urban areas alike.

Figure 1.6. Mozambique can enhance trade linkages with international markets to further agglomeration economies



Source: World Bank calculations based on data from Ghosh et al 2010

Financing faster urbanization should not be at the expense of investments in rural development or in agriculture; towns and cities need to strengthen domestic revenue mobilization

Policy directives to accelerate pace of urbanization should not be at the expense of reducing investments from rural areas. Reduces investment in rural areas is likely to lower agriculture's TFP growth rate. Further, slower agricultural growth results in higher real food prices. Food purchases make up a major share of poor urban households' consumption baskets, so higher food prices lower their real incomes, despite the increase in urban wages and job creation that accompanies faster urban economic growth. Expanding urban investment by shrinking rural investment is therefore counterproductive.

Towns and cities need to strengthen domestic revenue mobilization and land based taxes can be a way forward. To meet the growing demand for basic services, municipalities need to increase own source revenues and become more fiscally self-sufficient. This is particularly true for rapidly urbanizing metropolitan areas as in the case of Maputo, which concentrate larger share of the urban population and economy, and are therefore expected to be more fiscally self-sufficient than remote towns and small municipalities. International experience shows that land-based financing has become an important element of urban infrastructure finance, especially in locations where cities are growing rapidly. In addition to property tax, land-based financing instruments generate resources upfront and reduce the need for borrowing.

II. Key constraints limiting faster urbanization: Jobs, Connectivity, and Housing

The urbanization process in Mozambique is stymied due to constraints in three key areas: jobs, connectivity, and land markets.

Inadequate job creation in urban areas

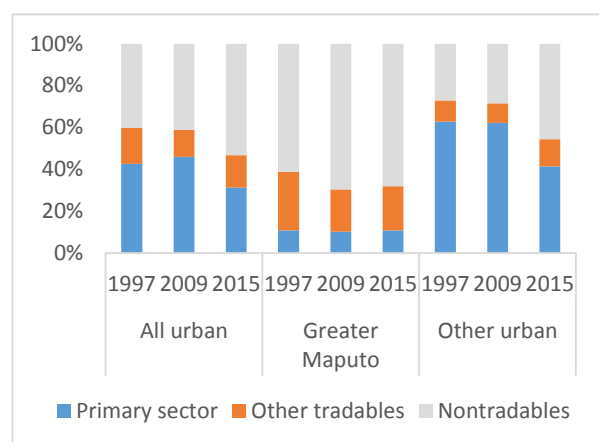
Cities are not offering greater employment opportunities than rural economies. Urbanization in Mozambique is not occurring because migrants are moving to cities in search of better job opportunities, but because of natural population growth. Mozambique's cities have high fertility rates. Indeed, migration from rural to urban areas explains just 12 percent of the urban population growth. Estimates using intercensus data show that annual interprovincial urban growth of 3.3 percent between 1997 and 2007 can be decomposed to 0.4 percent growth due to migration and 2.9 percent due to natural growth rates. Urbanization therefore is concentrated in a few provinces that draw most internal urban migrants: Maputo Province and Maputo City, which together receive more than 60 percent of newcomers to urban areas, and Sofala and Manica, in Mozambique's central corridor. Outside of these areas, overall rural-urban migration is low and may be a sign of lower comparative advantages in urban areas.

Such regional seclusion is a sign of missed opportunities for increasing economic growth and lowering disparities. Low rural-urban migration limits opportunities for spillovers of economic growth and poverty reduction across the country. Mozambique has a high dispersion of GDP per capita across regions. For example, GDP per capita in Maputo Province and Maputo City is triple that in any other province, a striking discrepancy in comparison with other countries. The ratio of maximum-to-minimum GDP per capita between Mozambican provinces is 4.8, which is high compared to 1.5 in South Africa, 3.6 in Tanzania, and 2.5 on average in the 20-richest countries (Gennaioli et al. 2014). A decade from now, Maputo and Matola will each have more than a million residents, and there will be 22 cities of more than 100,000 inhabitants, which is equal to 15 new intermediate cities in 30 years.

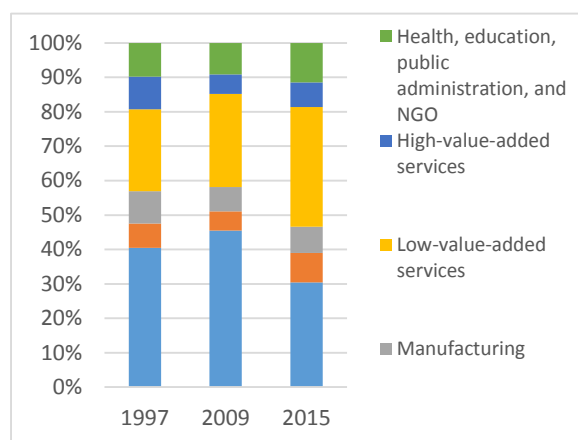
Jobs in urban areas are growing in sectors with low value-added. The influx of international investments toward natural gas projects in the 1990s contributed to an excessive appreciation of the domestic currency. Sharp currency appreciation, however, makes exports uncompetitive, lowering the incentives and the ability to invest in tradable sectors, such as manufacturing, which tend to unleash productivity through economies of scale, agglomeration benefits, and specialization. In Greater Maputo, more than two-thirds of the jobs are in nontradable sectors (figure 2.1). In other urban areas, nontradables account for 46 percent of jobs, though they have gained ground in recent years. Tradable nonagricultural employment makes up just 21 percent of jobs in Greater Maputo and 13 percent in other urban areas of the country. The growth of nontradable sectors and a lack of scale economies thus dampen productivity and reduce the economic benefits of urbanization. In Mozambique, urbanization is failing to generate the same productivity effects seen in other developing regions, which could ultimately affect the overall relationship between urbanization and economic development.

Figure 2.1 Employment is concentrated in nontradable sectors

Share of employment by sector



Share of employment by sector, urban areas



Source: Based on data from IAF97, IOF09, and IOF15.

As a result, Mozambique’s cities have become less attractive to new workers. When differences in human capital, occupation, and industry are taken into account, workers’ earnings are not significantly higher in urban areas than in rural areas. Compared with rural areas, nominal wages are 26 percent higher in urban areas and 24 percent higher in Greater Maputo, but when wages are deflated to adjust for spatial differences in the cost of living, the urban wage premium disappears (table 2.1). Mozambican cities and especially Greater Maputo appear to be highly unproductive: real earnings are 28 percent lower in the capital metropolitan area than in other urban areas and 35 percent lower than real earnings in rural areas, meaning that workers have lower purchasing power. The lack of a real wage premium indicates that cities are not taking advantage of agglomeration economies to increase production and create the jobs for a young, growing urban population. Cities not only fail to be engines of growth by not observing significant productivity differentials, they also fail to attract migration from rural areas. Rural areas need desperately lower population to relieve the pressures on land subdivision, low productivity, and an excess labor force—and to benefit from complementary off-farm income sources.

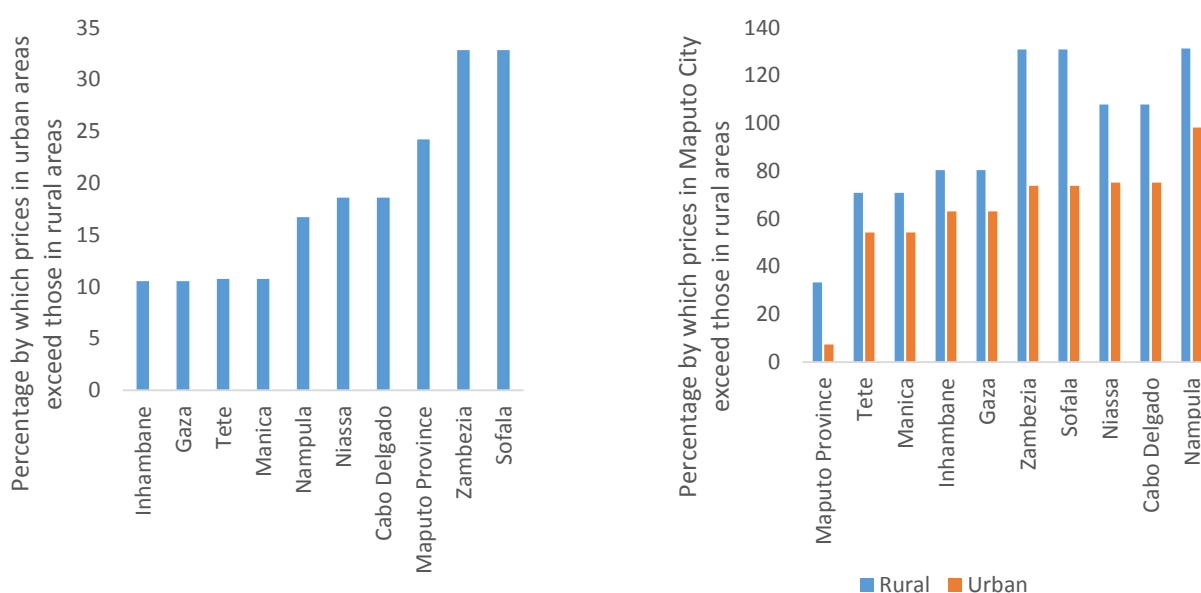
Table 2.1 Urban areas do not have a productivity premium

	Nominal premium			Real premium		
	Greater Maputo	Other urban	Urban	Greater Maputo	Other urban	Urban
Other urban	23%***	—	—	-28%***	—	—
Rural	24%***	2%	26%**	-35%***	-7%	-42%***

Source: Based on regressions given in the annex, using data from Inquérito Sobre Orçamento Familiar, 2008/2009 (IOF09). *p < 0.10, **p < 0.05, ***p < 0.01.

High urban costs make Mozambican cities less competitive in the global marketplace. One of the reasons why the wage premium does not exist in Mozambique is because prices in Mozambican cities and towns are about 21 percent higher than average given the country's characteristics (figure 2.2). Food is 18 percent more expensive in urban Mozambique than in other urban areas of the world and households spend 56 percent of their income on food—a disproportionately high amount that also has corresponding negative effects on productivity. As a result, firms need to pay wages that compensate workers for the high cost of living, but these high wages are matched by high prices, making products less competitive internationally. As a result, firms may end up providing only locally produced goods and services. High urban costs thus promote the development of consumption cities rather than production cities where growth is driven by industrialization.

Figure 2.2 Prices in urban areas are higher than in rural areas, especially in Maputo



Source: Estimated by World Bank staff on the basis of IOF09 data.

However, the current decline in natural resource prices could create an opportunity to get urbanization right. Now, as declining commodity prices reveal the weaknesses of not having a more diversified economy, pressure for a new economic model is growing. While the sharp devaluation of the Metical in the last two years had a hard impact on prices of imported food, it creates more competitive conditions for domestic production, not only in agriculture, but also in manufacturing. Another important implication of the economic downturn is that it deflated the real estate boom; profits from mining were invested in real estate while demand was high but land supply constrained. Since the end of the commodity boom, the prices of prime land, housing, and office space have gone down in some cases by 50 percent, making it more accessible for businesses to invest in cities. The combination of lower costs to access land and real estate with less competition from imports can help attract private investments to cities in Mozambique, and increase the premium for urban jobs. All this should accelerate urban growth and encourage more productive sectors to develop in cities.

Limited inter regional connectivity within Mozambique

Connections within the country are limited regionally, both in the movement of people and trade of goods, and is a key binding constraint to urbanization. Although the Government of Mozambique has invested considerably in national roads recently, and private sector has also contributed to extend the railway and port infrastructure, the connection between large, medium, and small cities, as well as with their rural space continues suboptimal. The urban transport system in Mozambique is mainly distributed along seven transport corridors, but only one of the country's seven most important corridors runs north to south. All the major development corridors run west to east, because the colonial regime connected Mozambique with the rest of the continent to support mining trade flows. As a result, the Maputo-Matola corridor in the south runs west to east and constitutes the country's most important axis, with 29 percent of Mozambique's urban population. The country's second most important axis, the Nampula-Nacala corridor in the north, also runs west to east and holds 14 percent of the country's urban population, followed by the Beira-Chimoio corridor in the central region, which contributes 9 percent. While these corridors are vital for large economic sectors, linking mining production to ports, the transport system outside these corridors is not well developed. As a result, the economic impact of these development corridors has been limited, given their limited linkage with small and medium-size enterprises and smallholder farmers across the country.

Product and labor markets are spatially fragmented, not allowing the country to benefit from economies of specialization and scale. While primary roads have been well-maintained by central government, secondary and tertiary roads under the responsibility of sub-national governments need to be rehabilitated, to reduce transport costs and enable better access to markets. Only about one-quarter of secondary and tertiary roads are in good condition, while the rest are in poor condition and need to be rehabilitated (table 2.2 and figure 2.3).³ This has important implications for the economy as a whole, as high transport costs can make agricultural exports uncompetitive in international markets. For example, the cost to bring a ton of goods from inland areas in Manica, Niassa, and Tete provinces to a city with a population of more than 50,000 exceed US\$30 per ton (figure 2.4). This is a constraint on agricultural exporters and other international traders. According to the 2007 Business Environment and Enterprise Performance survey, 17 percent of the firms surveyed import materials and equipment from abroad and only 5 percent of the firms export their products.

Table 2.2 The secondary and tertiary road network needs to be better maintained (km)

	Paved				Unpaved			Un-known	Total
	Good	Fair	Poor	Very poor	Good	Fair	Poor		
Primary	2,376	2,293	4	3	74	322	667	206	5,946
Secondary	431	432	0	0	358	2,111	1,346	133	4,811
Tertiary	252	250	40	0	824	6,383	3,089	1,445	12,283
Vicinal	9	38	10	0	43	2,814	2,426	983	6,323
Total	3,068	3,013	54	3	1,299	11,630	7,529	2,767	29,363
%	10.4	10.3	0.2	0.0	4.4	39.6	25.6	9.4	100.0

³ There are small discrepancies between the different sources of data.

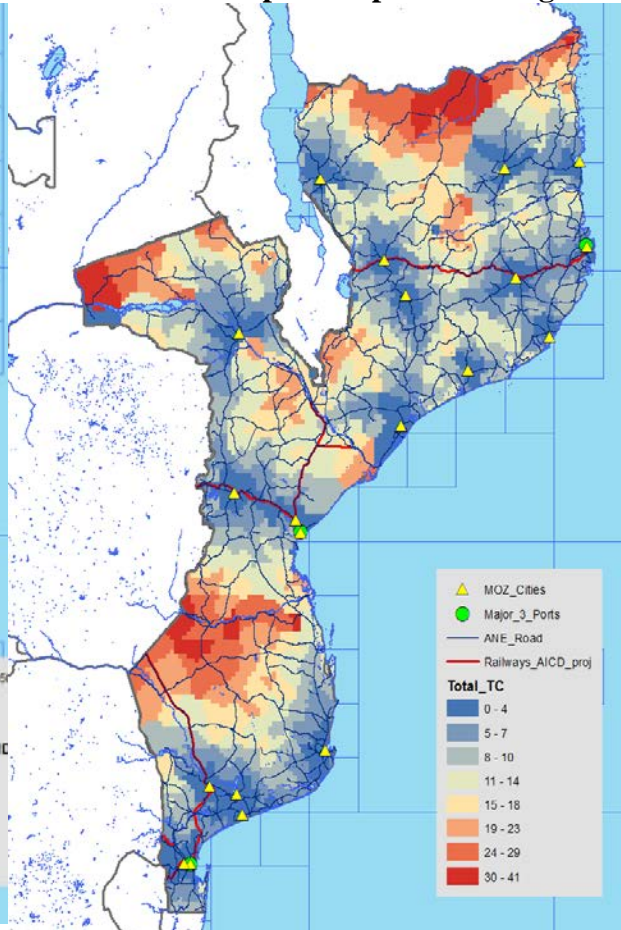
Source: Administração Nacional de Estradas (ANE)

Figure 2.3 Secondary and tertiary roads in inland areas are in poor condition



Source: Administração Nacional de Estradas (ANE)

Figure 2.4 A poor secondary and tertiary road network keeps transport costs high

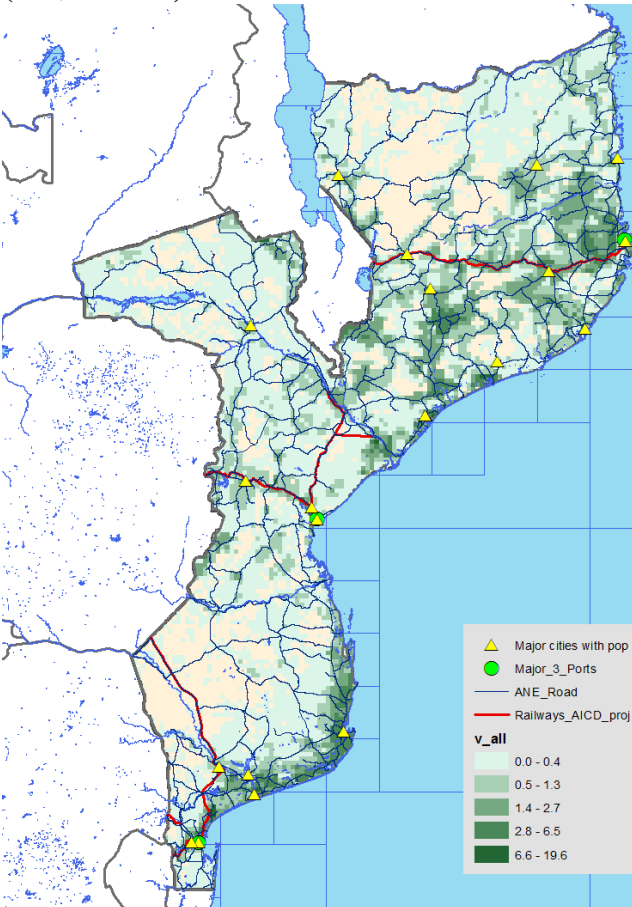


Source: World Bank staff estimates

Weak rural-urban linkages limit the ability of farmers to connect to markets. Most of the poor live on subsistence farms and small scale agriculture, with few other job options. Poor roads constrain agricultural productivity, and thus the productivity of the rural poor that lives from agriculture. As figure 2.3 shows, 85 percent of rural dwellers are not connected to an all-weather road network. Moreover, the existing road network is prone to major disruptions caused by floods and cyclones, so farmers receive lower prices for crops and pay higher prices for inputs. Geographically, the current agricultural production areas are concentrated on Nampula and Zambezia, the poorest and most populous provinces, where households are more isolated, and coastal areas of the southern provinces. From the agro-ecological point of view, Mozambique has significant untapped agricultural potential, which IFPRI estimates to be at US\$567 billion under the conditions of high commodity prices (figure 2.5 and 2.6). Although these estimates do not assume any physical or institutional constraints, such as protected land, they indicate that the

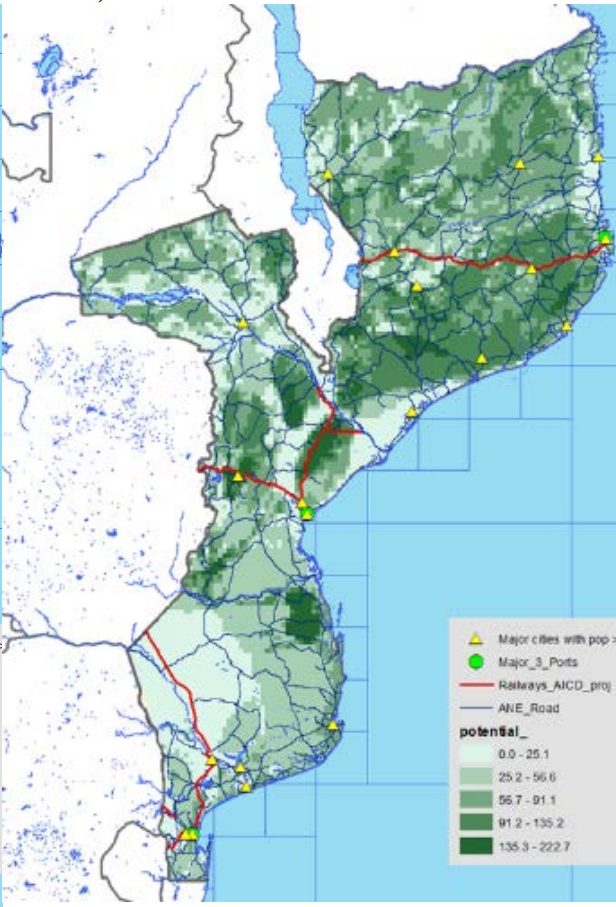
current production level is far below the potential. This may partially explain why, despite its domestic potential, Mozambique is currently importing about US\$600 million of food and agricultural products every year. Moving forward, improved agricultural productivity can significantly contribute to the country's inclusive economic growth and poverty reduction.

Figure 2.5 Agriculture production value (US\$ million)



Source: IFPRI SPAM Update 2010

Figure 2.6 Agricultural potential (US\$ million)



Source: IFPRI SPAM Update 2010

Note: To examine the geographic distribution of the current and potential agricultural production, the Spatial Production Allocation Model (SPAM) developed by the International Food Policy Research Institute (IFPRI), was used. The SPAM is a spatial model to allocate crop production derived from large statistics reporting units, such as province and district, to a raster grid at a spatial resolution of approximately 10km x10km. Using a cross-entropy method (Shannon 1948), the model infers likely production locations of each of 42 crops under 4 different production systems in 2010.

Dysfunctional land markets

Land policy in Mozambique is not conducive to a well-functioning urban land market. Urban development at the city level is hobbled by a patchwork of constraints from the land market, reducing potential for economic clustering and agglomeration economies. In a well-functioning urban system, urbanization transforms nations from rural to urban economies by organizing

populations in ways that enable them to perform mutually beneficial economic functions. Areas with low population densities typically engage in activities like mining and agriculture; villages and small towns tend to serve as sourcing hubs for inputs and the consolidation of products; and cities generally operate as processing centers where streamlined production increases value added, which is then redistributed internally and abroad. This system requires labor and land markets to function well. While land reforms were implemented after independence to ensure land right use to all for social (housing) and economic (livelihood) purposes, today's land policy and institutional framework is a juxtaposition of legally recognized customary rights with land use rights to occupy public land, which fail to respond to market forces.

Land tenure regularization and delivery mechanisms are complex, opaque, and inefficient. Many land tenure and delivery systems still coexist in Mozambique, including customary land practices (prevalent in peri-urban areas), state ownership and government allocation (the prevalent form of land delivery and tenure), and market transactions (not legally recognized but the *de facto* form of land commercialization). The juxtaposition of these systems makes formal land transactions very complicated, time consuming, and expensive, as often it is necessary to go through many formal administrative steps and informal channels to acquire the final land use right title (DUAT). Acquiring a DUAT is often tedious and costly. It can involve as many as 103 steps over several years. The lack of a simple and straightforward land registration system prevents urban land markets from functioning well, and creates obstacles to raising capital for development and investment. These circumstances often produce land tenure situations that bear little relationship to the formal right to use the land envisioned in the original legislation. As elsewhere in Sub-Saharan Africa, this complexity can make land management inefficient, promote rent seeking, deter investment in land, and limit government's capacity to derive revenues from land-use taxation. Even where formal land use rights have been issued, basic mapping, geographic, or ownership information is often inaccurate, land records are poorly maintained, causing disputes.

Municipal governments have very limited institutional capacity to manage urban land. With independence, land was nationalized to guarantee that everyone had the right to use this vital resource for residential and economic purposes. With decentralization, municipalities became responsible for managing the stock of public land within their administrative boundaries, including the central role in registering and issuing DUATs. But most municipalities did not—and still do not—have the legally required instruments to fulfil this mandate. To issue a DUAT under the legal framework, municipalities need to have in place all the mandated territorial planning instruments. This includes an approved master plan (PEUM) with the overall land use regulations, detailed urban plans (PPUs) that guide all the specific spatial characterization of urban development at the district level, and a land registration and cadaster system. None of the municipalities in Mozambique adequately fulfill all these legally required instruments.

Lack of urban land regularization limits supply of formal land. Although the DUAT was designed to guarantee citizens free and secure access to state-owned land, DUATs have not been delivered at scale with the exception of Maputo municipality. Maputo has recently developed its PEUM (though without a proper land use plan), several PPU, and a computerized land cadaster and regularization system (financed under ProMaputo I and II). Despite Maputo's effort to undertake a massive land regularization process, which by February 2017 reached more than 30,000 DUATs given to informal settlements dwellers, the municipalities probably have about 30–40 percent of the real stock of land plots in the city's information management system (SIGEM). In most other municipalities the situation is worse and registration of land transactions and

issuance of DUATs barely take place according to the law (without a PEUM and PPU). When they do take place, it is mostly ad-hoc, creating space for inappropriate land allocation, ownership conflicts, elite capture, and kickbacks.

Current land policy undermined the capacity of municipalities to capture land value for infrastructure finance. Private land ownership was not accepted since the land nationalization made all land public, with the exception of land under customary practices, or land occupied by the few Portuguese and other expat communities that agreed to stay in Mozambique running their businesses after independence. This rationale persists. Subsequent land legislation reforms continued to prohibit land sales, and thus ignore the real land market, which is particularly dynamic in growing urban centers. As a result, an important feature of the land system in urban areas of Mozambique is this duality of land delivery. Even though land markets are not legally recognized, a well-identified market segment exists for acquiring vacant land (mostly under customary law) and built land, with or without land use rights. Without a recognition that land has a market value, municipalities cannot capture the real market value of urban land in their land-based tax instruments, including property tax (IPRA) and transaction tax (IASISA). This in turn reduces their capacity to raise own-source revenues, and thus, to finance the urban infrastructure to expand service coverage to most urban dwellers, or to finance modern infrastructure to attract private investment into the local economy.

Urban land is overpriced due to policy and institutional flaws that significantly constrain the supply of formal land. The combination of this complex urban land system with an acute lack of urban land management capacity at the municipal level restricts the supply of urban land to individuals and firms. As a result, urban land prices have sky-rocketed, particularly where demand is growing fast due to population growth, influx of expats, or increasing flows of (legal or illegal) money into real estate from the main players in the natural resource industry. Housing, even in informal areas, is particularly unaffordable in Maputo, which according to some estimates can average 80 times the monthly minimum wage of MZN 2,500. Even when adjusting for income inequality, housing prices in Maputo are 30 times more expensive than in large emerging market cities, including Bogotá, Cape Town, and Sao Paulo. As result, the price of formal land (plots with a DUAT) is overinflated and unaffordable for most of the middle class and urban poor, pushing the majority of the urban population to live in informal and underserved areas.

A dysfunctional land market prevents cities from making early and coordinated infrastructure investments in housing and basic urban infrastructure. As a result, the majority of the urban population lives in underserved informal areas and semi-urban distant settlements. The intra-city space is far from urbanized. While urban infrastructure and services have improved in recent years, access to full urban infrastructure and services in Greater Maputo is limited mainly to the 30 percent of the households who live mostly in the *cidade cimento*. In urban areas outside Maputo, housing conditions are poor, and the delivery of basic services remains low. According to the 2011 Demographic and Health Survey, less than half of urban households in cities other than Maputo had access to electricity, while almost 90 percent of homes in Maputo have electrical power (table 2.3). Similarly, less than half of the homes in other urban areas had finished floors, but 97 percent of Maputo households had such floors. Access to piped water was 66 percent in other urban areas and almost 95 percent in Maputo. Sanitation facilities in municipalities are very underdeveloped, with the majority of households using latrines. Toilets are available in 48 percent of homes in Maputo, but only in 12 percent of households in other urban areas. Most municipalities have a small urban core and vast rural areas with low density, which makes per capita investment

in expanding infrastructure very expensive. In addition, people who live in these semi-urban outer areas tend to have much lower incomes, mostly from subsistence farming.

Table 2.3 Percentage of households with access to basic services and with finished floors

	Piped water		Toilet		Electricity		Finished floor	
	2003	2011	2003	2011	2003	2011	2003	2011
Maputo (City)	95.1	93.9	21.1	48	52.1	87.9	94.8	96.5
Other urban	51.3	66.3	4.6	12.1	19.1	48.5	48.2	47.6
<i>Total urban</i>	<i>59.1</i>	<i>70.5</i>	<i>7.5</i>	<i>17.6</i>	<i>25</i>	<i>54.5</i>	<i>56.5</i>	<i>55.1</i>
<i>Rural</i>	<i>5</i>	<i>15.2</i>	<i>0.2</i>	<i>0.6</i>	<i>1.1</i>	<i>5.4</i>	<i>6.7</i>	<i>10.3</i>
Total	20.9	31.8	2.3	5.7	8.1	20.2	21.3	23.8

Source: Based on Demographic and Health Survey for 2003 and 2011.

III. An Emerging National Urban Reform Agenda

Strengthen rural-urban linkages, including reforms to urban finances, enhancing trade and commuting flows

Integral to a national urban policy is promoting rural-urban linkages. As Mozambique's urban centers account for a much larger share of national economy, better connecting rural areas to these domestic markets can accelerate economic growth in rural areas. Urbanization increases not only the demand for urban services, but also the demand for agricultural products, which in turn can contribute to reducing poverty in rural areas. Moreover, rural-urban migration will continue for many decades since the country is in an early stage of urbanization. This spatial and demographic shift might even accelerate as it is expected that agro-business will grow in the coming years, transforming agriculture from labor-intensive to capital-intensive and requiring the consolidation of small rural properties in large mechanized farms. Without increased public investment in urban infrastructure, Mozambique cities will not have the capacity to expand urban services and generate enough jobs to support new migrants, hindering welfare improvements for the urban poor. Smaller towns face the largest rural-urban inflows, but have the lowest capacity to raise own-source revenue. Supporting urbanization in intermediate and small cities is thus central to improving agricultural output since small cities connect farmers to input and output markets and medium-size cities serve as logistical and transport hubs and host larger consumer markets.

Better transport access will support increased economic and social activities, particularly in rural areas where the poverty rate is high. The majority of the poor depend on agriculture, with few other job options. Because most rural farmers are isolated and poorly connected to markets, there is a clear negative correlation between agricultural productivity and market access, measured by transport costs to the nearest city with a population of 50,000. For example, the average productivity of maize is estimated at about 1.2 ton per hectare in districts that have close access to markets, or where transport costs are less than US\$2 ton per hectare. But where transport costs exceed US\$20 ton per hectare, maize productivity is nearly 20 percent lower. A 10 percent reduction in transport costs can increase agriculture production value by 2.7 percent. Therefore, enhancing mobility in selected rural areas, including through an integrated approach to feeder roads, will help support inclusive agriculture and other livelihoods of local communities.

Make Urban Land Systems More Equitable and Efficient

It is fundamental to reform the current land policy and institutional framework to unleash the economic forces of the urban land market. Even though the law forbids selling land since land is public and people only have the right to use land, an informal land market exists parallel to the formal allocation of public land by issuing DUATs. In practice, as the price of transacted buildings capitalizes land values, there is room to directly recognize the market for land—and not just the market for housing structures. This is in line with Mozambique's post-independence principles: making land use rights tradable would not necessarily require privatizing the land, which could remain the property of the state, but leased out to private users. Nor would it

necessarily work against the poor—who are excluded from the present system anyway—since easing the transferability of land could increase formal land supply and stimulate developments, lowering formal land prices and making access to formal land affordable to a larger segment of the urban population.

It is essential to support municipalities as they put in place effective urban-land value capture instruments. Recognizing that land has a value and that this value must be taken into consideration in the management of land would enable municipalities to fully leverage the tax revenue potential of their land markets and raise a sustainable source of funding to respond to serious urban infrastructure and service delivery gaps. Recent land value simulations in the Greater Maputo Area show that raising the property tax rate from 0.4 to 1.0 percent and applying the full market value of the property would yield a net present value of \$44 billion over 10 years. And the scope for such market-based taxation of formally held properties will surely expand in the future with the scaling up of DUAT issuance. Maputo, for example, recently took an important first step by promoting massive land regularization, by increasing the number of DUATs to more than 30,000 from 2012-2016 period. But leveraging revenues from land-based taxation would require addressing the incompleteness of land information systems and the lack of integration between land and tax registries. Land rights should be systematically registered, and land use information should be fed into a national cadaster and subsequently linked to a municipal tax registry for the collection of property taxes. At present, a large majority of municipalities do not have a municipal land registry or the information to establish a land registry, preventing municipal authorities from efficiently managing land and leveraging own-source revenues.

Mozambique can undertake a new phase of land reforms that preserves the general principle of land as state property, but at the same time addresses the current bottlenecks that prevent it from achieving its ultimate equality and efficiency goals. The policy and institutional development reforms should aim at increasing the access of the urban poor to urbanized land, ensuring a transparent land management system, and promoting a competitive and fair market of land use rights to attract private investments and improve efficiency in land allocation. The scope of the reforms and follow up implementations would include:

- *Develop a multifunctional land management system for municipalities.* To address the bottlenecks in the land registration process, municipalities need greater support to develop modern, transparent, and efficient property registration systems, based on a multifunctional land cadaster, land surveying and mapping, and up-to-date recording of land transfers. Municipalities can take advantage of existing spatial planning systems (ex. PDE Platform), and computer-based land regularization and management systems developed by the national government (ex. SiGIT), and by some municipalities (ex. Maputo SIGEM).
- *Promote massive urban land regularization campaigns.* Since most urban dwellers occupy land in good faith without proper land use rights titles (DUATs), this makes them vulnerable to ad hoc decisions by government officials, land conflicts, and distress sales. Following the experience of Maputo, municipalities could implement massive land regularization campaigns to bring all urban land within a single tenure right. This effort needs to be synchronized with the development of legally required urban planning

instruments (PEUM, PGU, PPU, and PP) to ensure that land rights do not conflict with urban development plans, and that urban development plans take into consideration existing land tenure rights.

- *Audit all DUATs granted in the past in order to identify violations to the national land law.* Many cannot afford a well located parcel of land because there are vacant land assigned to people that are not being used. As such, municipalities should review and map out how much land has already being allocated. Where (provisional or definitive) DUATs have been granted but the period for occupying the land has expired, or where DUATs have been granted in areas that do not meet land use plans, these DUATs should be revoked. Land ‘confiscated’ should return to the ownership of the municipal council.
- *Amend the National Land Law to allow the commercialization of DUATs (not only transfers), but retaining public land ownership.* The current land law has become outdated after the country transitioned to a market economy. It is very important to recognize that there already is a vibrant land market that needs to be regulated in order to preserve the ultimate goals of the national land policy in terms of equity. This should include provisions for municipalities to auction DUATs in vacant urban land (instead of assigning them for free), and provisions to guarantee that DUATs are given in a transparent manner.
- *Amend the municipal tax code to introduce a progressive property taxation factor for unproductive land.* Since the political economy of a deeper urban land reform which could address past land grabbing and the strong power of land speculators might complicate matters, property taxation could be a more pragmatic approach to help achieving both the equity and efficiency objectives of the land policy. In other to avoid land speculation and sub-optimal use of urban space, it is important that municipalities can apply a progressive property tax. The review of the property tax code (IPRA) should also incorporate real land market assessment in the IPRA formula. The review of the IPRA code should be accompanied by support to improve the tax basis, and collection, eliminating special rates and waivers for new developments.

Deepening decentralization to provide a broader remit to municipalities for urban planning and domestic resource mobilization

The process of ‘municipalitization’ in Mozambique has already demonstrated significant achievements. Since the first wave of decentralization reforms in the late 1990s, municipalities are growing in number and in population. Municipalities are also acquiring greater responsibilities, either through formal devolution, or due to the simple fact that there are closer to citizens. Indeed, municipalities have been extending coverage of urban services and increasing investments in urban infrastructure, particularly the medium and larger municipalities that have greater own source revenue capacity.

However, the implementation of decentralization reforms is far from complete. Most municipalities have demonstrated that they are well positioned to enhance the dynamism and efficacy of urban development in Mozambique; however, they have not yet fulfilled the potential of their statutory roles. The decentralization process that started in 1997 was built upon very weak organizational structures at the local level. Implementation of decentralization policies has been

incremental and only now the first results can be seen in terms of increased municipal resources, better urban planning and land management, and greater accountability towards citizens.

A national agenda for deepening decentralization entails support to continue implementation of the current policy framework, as well as introduction of new reforms. The current constraints and shortcomings analyzed in this chapter suggest the following policy reforms and institutional strengthening to help municipalities fulfill their statutory obligations to provide robust urban infrastructure and public services:

Support to Implement Decentralization Policy

- *Scale up municipal performance grants and technical assistance to municipalities for increasing own source revenue.* Despite the steady increase in own source revenue, there is still a large unmet potential from property tax (IPRA). The low level of own source revenue is constrained not only by low institutional capacity in organizing and collecting local taxes, but also the political economy which inhibits elected representatives to increase the tax burden on their direct constituency. The experience of Municipal Performance Grants and Municipal Finance Technical Assistance to 20 municipalities under the Cities and Climate Change Program demonstrated that the combination of incentives with technical assistance to strengthen institutional capacity can produce tangible results in terms of increased municipal own source revenue. These incentives could be expanded to most of the 53 municipalities, and include support to strengthen fiduciary functions.
- *Provide incentives and technical assistance to improve coverage and financial sustainability of urban services and infrastructure.* Most basic urban infrastructure and services are of poor quality, and have limited coverage due to lack of funding. On the one hand, lack of clarity in national sectoral policy frameworks with regard to the allocation of municipal authority and responsibilities in domains where functions are shared with central government, such as water supply, drainage, and sanitation, as well as primary health care and education, limit investment and operational funding. For the largest municipalities (categories A and B), these functions should be clearly transferred to municipal authorities (as part of the municipal council structure, as municipal SOEs, or outsourced to private sector) with the respective transfer of resources and staff. For the smaller municipalities, financial sustainability of key urban infrastructure and services will continue to depend on inter-governmental fiscal transfers and direct provision from national or provincial SOEs, but pooling the delivery of these services together around a cluster of municipalities could create greater economies of scale. On the other hand, it is important to operationalize core urban services tariffs in a more transparent and efficient manner. For instance, by consolidating fees of different urban services (such as water, drainage, sewage, SWM) into one single bill, and updating tariffs across the board in order to ensure that operational and maintenance costs are fully covered.
- *Scale up technical support to municipalities to formulate key urban planning instruments and for establishing effective land management systems.* While the national law mandates that all municipalities should have municipal urban structure plans (PEUMs) and detailed land use plans (PPUs and PPs), not a single municipality has all these instruments in place. Land nationalization and subsequent decentralization transferred to municipalities the responsibility of managing all land within their boundaries and yet not a single municipality has updated land cadasters, or transparent and efficient land regularization procedures. This

has resulted in unplanned urban sprawl, increased occupation of hazard areas, and recurrent land conflicts, distress sales, and land grabbing (see more in Chapter 5).

Improving Decentralization Policies and Regulations

- *Review Property Tax Formula to Better Capture Market Value.* The current property tax (IPRA) formula is inflexible and does not reflect market values. The current legislation hinders taxation of real estate assets (land and building) as the current formula estimates the taxable value based mainly on an arbitrary construction cost. It also limits the variations due to location and building depreciation, thus significantly reducing potential municipal revenues and creating a form of regressive property taxation. A review of IPRA regulations should allow municipalities to assess real estate based on actual land market values. Construction costs should be also updated to reflect market values, broken down into low, medium and high construction costs, and provided on a regular basis by the central government. Similarly, the IPRA formula should be adjusted to better reflect the real depreciation of buildings and adjusted to reflect the wider range of land value across different areas of the same municipality.
- *Allow fiscally sound and creditworthy municipalities to borrow from the market on a long-term basis.* Key urban infrastructure requires long term financing, however, the current legislation limits municipal borrowing to short-term loans. The absence of long-term capital financing mechanisms seriously limits the capacity of municipalities to undertake the required investments in truck infrastructure, and expand more broadly basic services that can only be financed based on long-term repayment terms. Fiscal responsibility parameters and creditworthiness criteria could be created for enabling fiscally sound municipal councils to borrow from the market, or from a national municipal revolving fund.
- *Review urban planning legislation to increase enforceability and effectiveness.* Current urban planning instruments, such as PEUMs, PPU, and PP while mandatory by law, are not enforced. The current legislation is very weak in terms of the penalties given to private entities that do not comply with land use plans and are very lax in terms of the responsibility of mayors for not enacting or enforcing these instruments. Thus, a review of the current legislation is needed to incorporate stronger enforcement mechanisms, such as high penalties when developers fail to comply, as well stronger consequences when mayors do not enact or enforce these urban planning instruments. Moreover, the national law regulating PEUMs should be more clear about the scope and functions of urban land use planning (currently PEUMs have very vague land use plans), stipulate the different urban development regulations to be part of the PEUMs, and incorporate risk mapping to better regulate occupation in areas exposed to flooding, erosion, sea level rise, and other environmental hazards.

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End Notes

ⁱ Thurlow and Van Seventer 2016. Because the 2014/15 survey was unavailable at the time of writing, information on labor and households was drawn from Mozambique's 2008/09 national household survey (INE 2010).

ⁱⁱ We set the poverty line for the level of per capita-consumption spending (including home consumption) at the top of the second population quintile. This threshold resulted in 40 percent of the population being classified as poor in the base year of our model.

ⁱⁱⁱ Jedwab, Christiaensen, and Gindelsky, forthcoming.