

MAKING CITIES WORK

Accessing Finance from a Variety of Funding Sources for Infrastructure Expansion and Upgrades

WATER, SANITATION & HYGIENE FINANCE (WASH-FIN)



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Session Themes

- Planning for and financing water and sanitation infrastructure is critical to delivering affordable housing
- Developing appropriate financing structures for affordable housing is key to attracting the private sector
- WASH-FIN is providing technical assistance to public and private water and sanitation service providers in order to increase access to finance within the sector

Introducing the Speaker

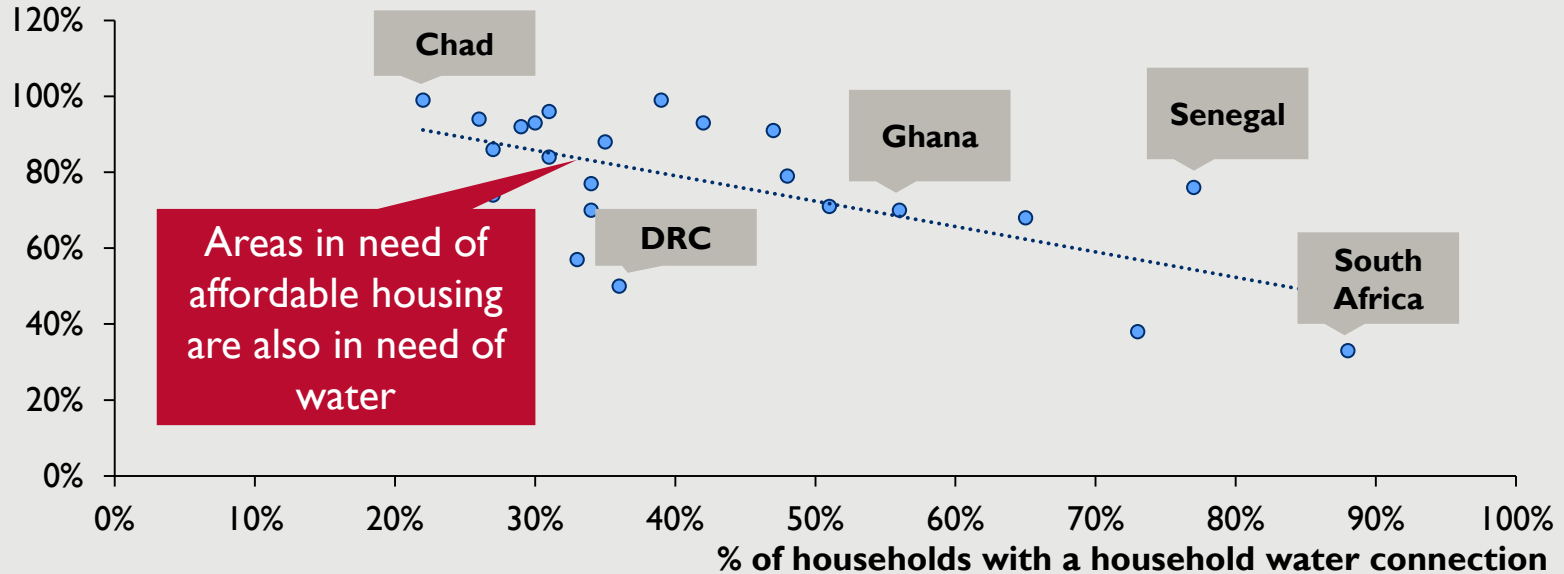
Prof. Jeremy Gorelick: Infrastructure, Affordable Housing, and Municipal Finance

- WASH-FIN, *Senior Infrastructure Finance Advisor*
- Affordable Housing Institute, *Managing Director, Capital Markets*
- World Bank, *Technical Consultant*
- Homeless International, *Finance Advisor*
- Water and Sanitation for Africa, *Director, Social Enterprise Group*
- Dakar Municipal Finance Program, *Lead Tech. and Financial Advisor*
- Dresdner Kleinwort Wasserstein, *MD Debt Capital Markets*



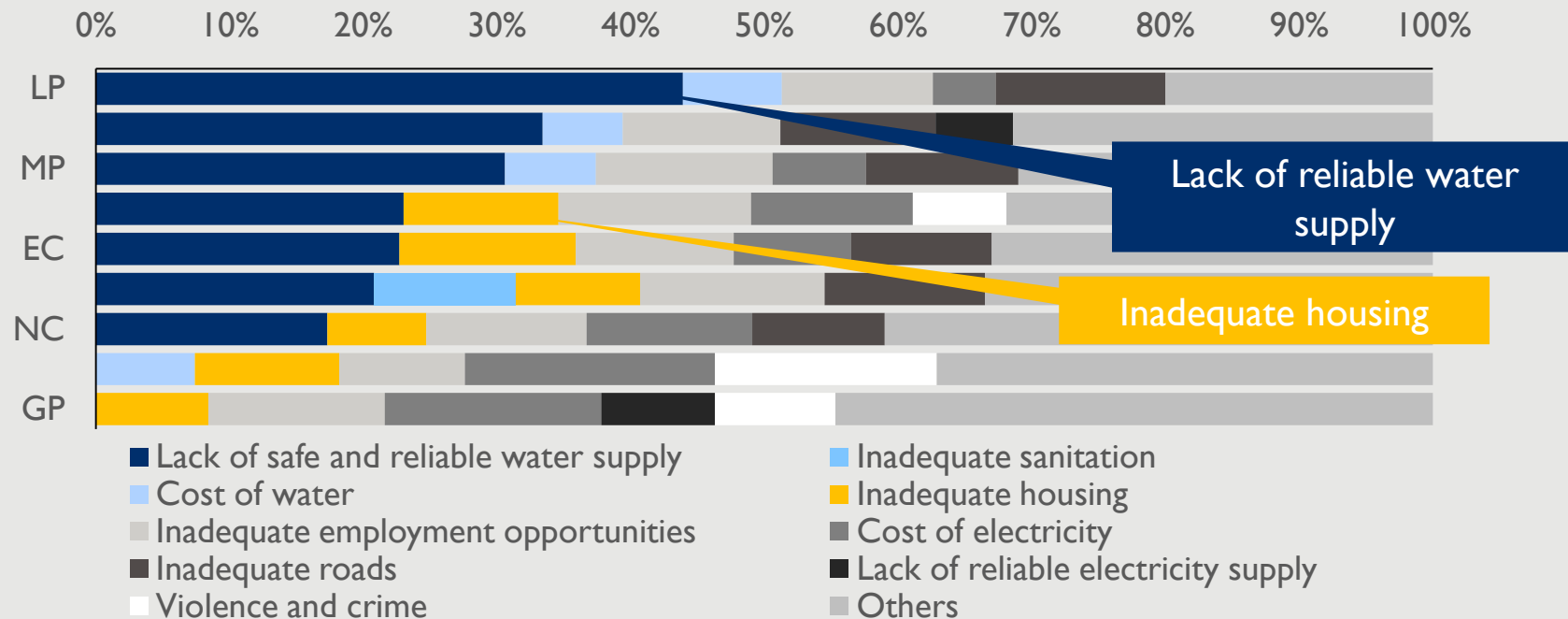
Water Provision to Low-income Communities in SSA

**Low income area (LIA)
population in major city (%)**



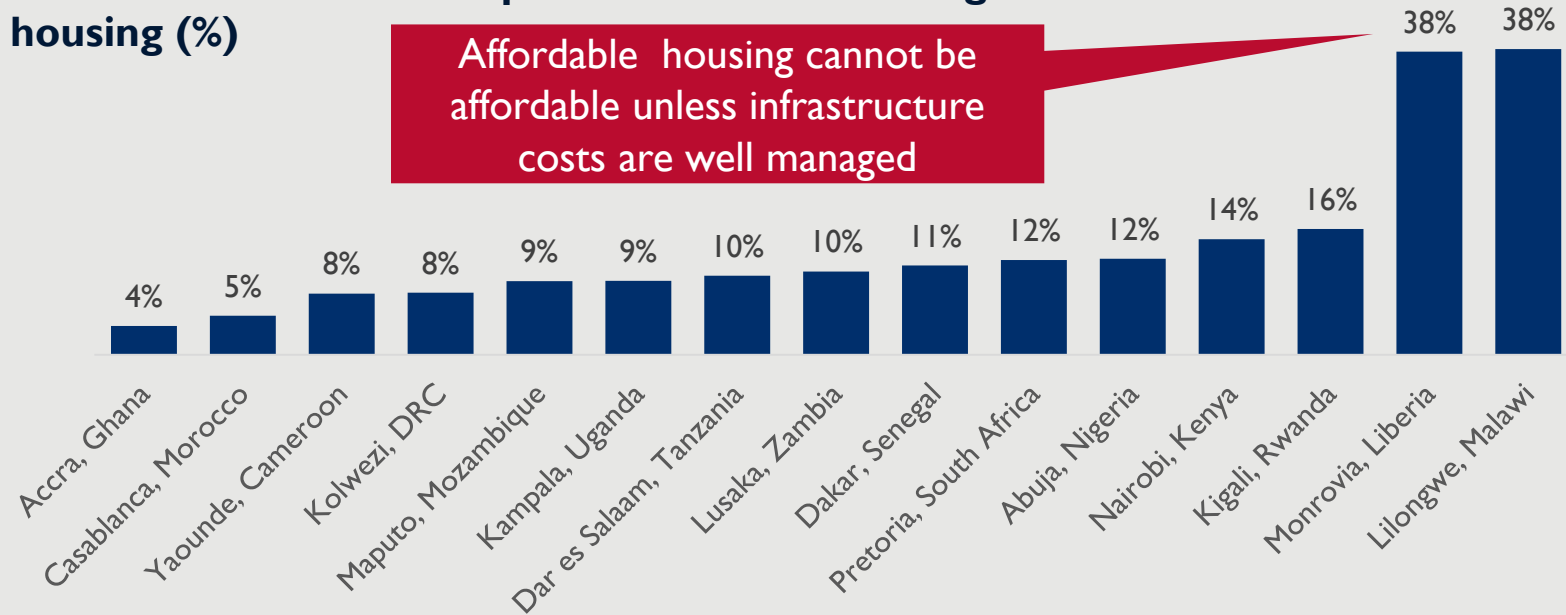
In RSA, lack of water outranks lack of housing for many

Top 5 challenges cited faced by households by province (% of HH citing challenge)



Infrastructure costs are a material portion of housing costs

Infrastructure costs as a portion of total cost of generic formal housing (%)



Insufficient infrastructure planning and provision deters private developers and prices out low income home buyers



Kenya: *Infrastructure gaps deters private developers from low-cost areas¹*

- The Gov't has planned to build 500,000 affordable homes in five years is far behind Schedule with only 35,000 of 200,000 planned homes constructed in 2018
- A lack of bulk supporting infrastructure has been the largest impediment to private sector developers creating low-cost housing
- The estimated infrastructure gap for the 500,000 houses is KSH 140B (USD ~1.3B)²



New Guinea: *Lack of infrastructure makes housing inaccessible to residents³*

- The National Housing Corporation failed to develop trunk infrastructure before houses were constructed, increasing housing prices by USD~15,000 (17% of total cost) per unit
- This made the units less affordable to the low-income households originally targeted
- As a result, low-cost housing developed by the National Housing Corporation was still vacant even ~2 years after completion

Source: 1) Delphin Mugo, "Planning is all it takes to provide housing for all," The Daily Nation, April 12, 2018, <https://www.nation.co.ke/lifestyle/dn2/Planning-is-all-it-takes-to-provide-housing-for-all/957860-4389070-37to15z/index.html> 2) Peter Muiruri, "Expensive loans, lack of infrastructure hinder affordable housing dream", The Standard, June 28, 2018, <https://www.standardmedia.co.ke/business/article/2001285832/kenyan-developers-in-the-dark-over-state-housing-plan> 3) Eugene E. Ezebilo, Evaluation of Affordable Housing Program in Papua New Guinea: A Case of Port Moresby, (Papa New Guinea: National Research Institute, 2017), <https://postcourier.com.pg/trunk-infrastructure-place-housing-project/>

Drivers of Poor Delivery of Affordable Housing in SSA

1 Access to Land, Affordability of Land, and Security of Tenure Drive Overall Housing Affordability

2 Infrastructure Provision is Scarce and Lags behind Housing Development

3 The Cost of Formal Construction Is High Relative to Household Incomes

4 Most of the SSA Population Cannot Access Formal Housing Finance

- In SSA the typical building process of *'plan-service-build-occupy'* has become *'occupy-build-service-plan'*
- As a result, it is expected that most countries will take another 50 years to achieve universal access to basic infrastructure
- This failure to plan can increase the price of housing as the costs of retrofitting and extending infrastructure are higher than a greenfield grid.

Zimbabwe: Budiriro – Lack of infrastructure planning increases costs

Lack of clarity on roles

- City of Harare provides un-serviced land with the understanding that the company will provide infrastructure
- Central Africa Building Society (CABS) anticipated costs did not sufficiently account for infrastructure

Cost increases passed to consumer

- Costs of infrastructure provision are higher than expected
- CABS decreases the number of units constructed and increases the price

Price of a 2bdr house went up 24% from \$22k¹ to \$27k²

Limited uptake

- Limited uptake despite reduction of deposit from 25% to 10% and extending tenor from 10 to 20 years

Inaccessible land forced CABS to build a \$3.4M road³

Zimbabwe: Budiriro – Lack of infrastructure planning increases costs

Affordability of smallest unit:

One bdr., kitchen, toilet and bathroom

Cost	\$22,002
25% deposit	\$5,874
Balance	\$16,502
Monthly payment	\$189
Min. monthly income	\$756
Minimum savings required	\$6000

Mortgage at 6.5%, payable on a monthly basis over 10 years

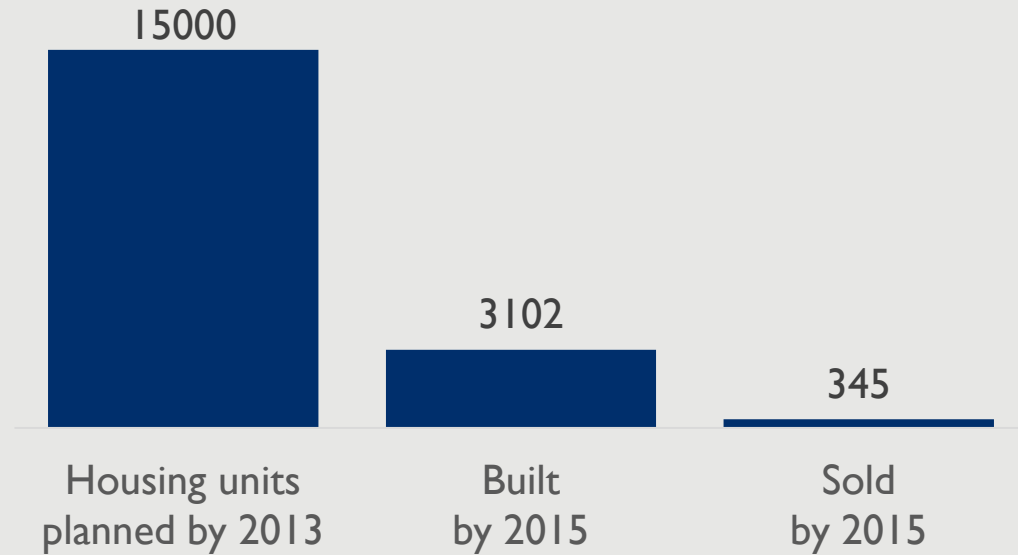
Combined monthly avg. income per couple is \$257 in Harare

Average salary	\$257
Housing allocation	\$77
Loan amount	\$7,000
Monthly payment	\$79
House price (if loan is 75% of home value)	\$9,333

Sources: 1. "CABS Budiriro Housing project: Disbursement of loans begin," News Day – Zimbabwe, 2016 <https://www.newsday.co.zw/2014/08/05/cabs-budiriro-housing-project-disbursement-loans-begin/> 2. "CABS Budiriro houses inaccessible," H-Metro – Zimbabwe, 2016 <http://hmetro.co.zw/cabs-budiriro-houses-inaccessible/>

Zimbabwe: Budiriro – Lack of infrastructure planning increases costs

Houses planned, built and sold



Sources: 1. "CABS Budiriro Housing project: Disbursement of loans begin," News Day – Zimbabwe, 2016 <https://www.newspaper.co.zw/2014/08/05/cabs-budiriro-housing-project-disbursement-loans-begin/> 2. "CABS Budiriro houses inaccessible," H-Metro – Zimbabwe, 2016 <http://hmetro.co.zw/cabs-budiriro-houses-inaccessible/>

Challenges continue but solutions are emerging

Zambia

In Zambia, infrastructure costs make units unaffordable:

- Electricity connection costs US\$ 700-1000 per home¹
- Water connection costs are comparable, leading to ~\$1,400-\$2,000 increase in cost per unit¹

Australia

In Brisbane, it is estimated that for every:

- If \$1.00 of infrastructure charges is passed on to the developer, \$3.69 is passed on to the consumer - an on-passing ratio of 369%²

India

Gov't introducing fiscal reforms to reduce costs:

- 'Infrastructure tag' for affordable housing allows builder to borrow at 12% instead of 18-24%³
- No 'service tax' on gov't or PPP affordable home projects with units <78m³

Sources: 1. "Challenges of Affordable Housing Delivery in Zambia," Daniel Phiri, Center for Affordable Housing Finance in Africa, 2016 2. "The Impact of Infrastructure Charges on House Prices in Australia," Lyndall Bryant & Chris Eves, Queensland University of Technology, 2014 3. "Affordable housing: Low-cost housing to benefit from infra tag," Shalini Nair, The Indian Express, 2017

Nigeria: USD 500M PPP agreement to increase home ownership via affordable mortgages



Key facts

Level	Local
Year started	2017
Type of financing	PPP
Financing cash need	USD 500M ²

Key challenge/Why did they need financing?

- A 2016¹ report sized the housing deficit in Lagos to be 17M units
- The state government is actively seeking private sector investment to increase both the supply of homes as well as increase consumer access to home ownership through affordable financing options

How it worked/The process they went about

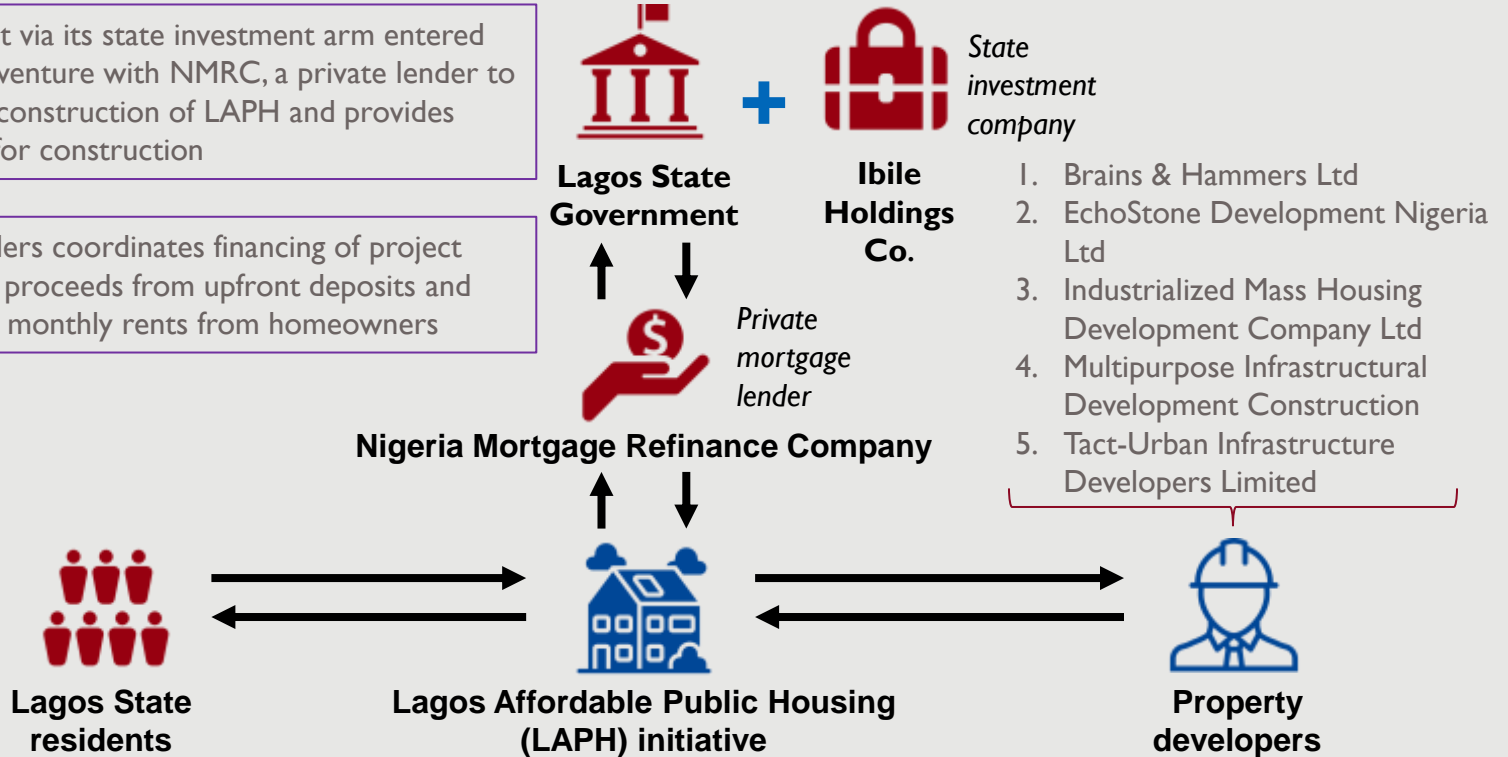
- A PPP agreement between the Lagos State government & Nigeria Mortgage Refinance Company (NMRC) was structured with private developers executing projects on Government provided public lands and NMRC provided financing
- Tenants can access affordable mortgages via the state-back Lagos Mortgage Board and rent-to-own leases
- Loans were available at a subsidized 9% interest rate per annum with 5% deposit and the balance to be repaid over 10 years

Sources: 1) The Guardian, *Report charts new course for Lagos housing market* (Lagos, Nigeria: The Guardian, 2016) 2) Home Base Mortgage Bank, *NMRC Partners Lagos State Government and its Developers to Deliver 20,000 Housing Units* (Lagos, Nigeria: Home Base Mortgage Bank, 2017)

Nigeria: The PPP brought together multiple public and private actors to successfully deliver affordable housing

1 Government via its state investment arm entered into a joint venture with NMRC, a private lender to finance the construction of LAPH and provides public land for construction

2 Private lenders coordinates financing of project repaid with proceeds from upfront deposits and future fixed monthly rents from homeowners



Nigeria: Investment will deliver 20K+ houses through public & private sector collaboration

Expected outcomes

In addition to providing housing, the investment is expected to generate **multiplier effects**:

- Employment for 10K people
- Unlock savings by freeing up disposable income
- Increasing the availability of capital to home owners through property value appreciation

Lessons learnt

Collaboration between both state government and private partners is key to successful PPP arrangements

- Both public and private sector stakeholders recognized their shared responsibility in tackling the issue of housing deficit

Lagos has also provided a clear template for PPPs at a sub-national level to deliver affordable housing through access to consumer financing

Sources: 1) The Guardian, *Report charts new course for Lagos housing market* (Lagos, Nigeria: The Guardian, 2016), <https://guardian.ng/property/report-charts-new-course-for-lagos-housing-market/> 2) Home Base Mortgage Bank, *NMRC Partners Lagos State Government and its Developers to Deliver 20,000 Housing Units* (Lagos, Nigeria: Home Base Mortgage Bank, 2017), <http://www.homebasemortgagebank.com/nmrc-partners-lagos-state-government-and-its-developers-to-deliver-20000-housing-units/>

South Africa: Gov't made a small infrastructure investment to deliver a USD 350M PPP at Fleurhof



Key facts

Level	Local
Year started	2009
Type of financing	PPP
Financing cash need	USD 350M

Key challenge/Why did they need financing?

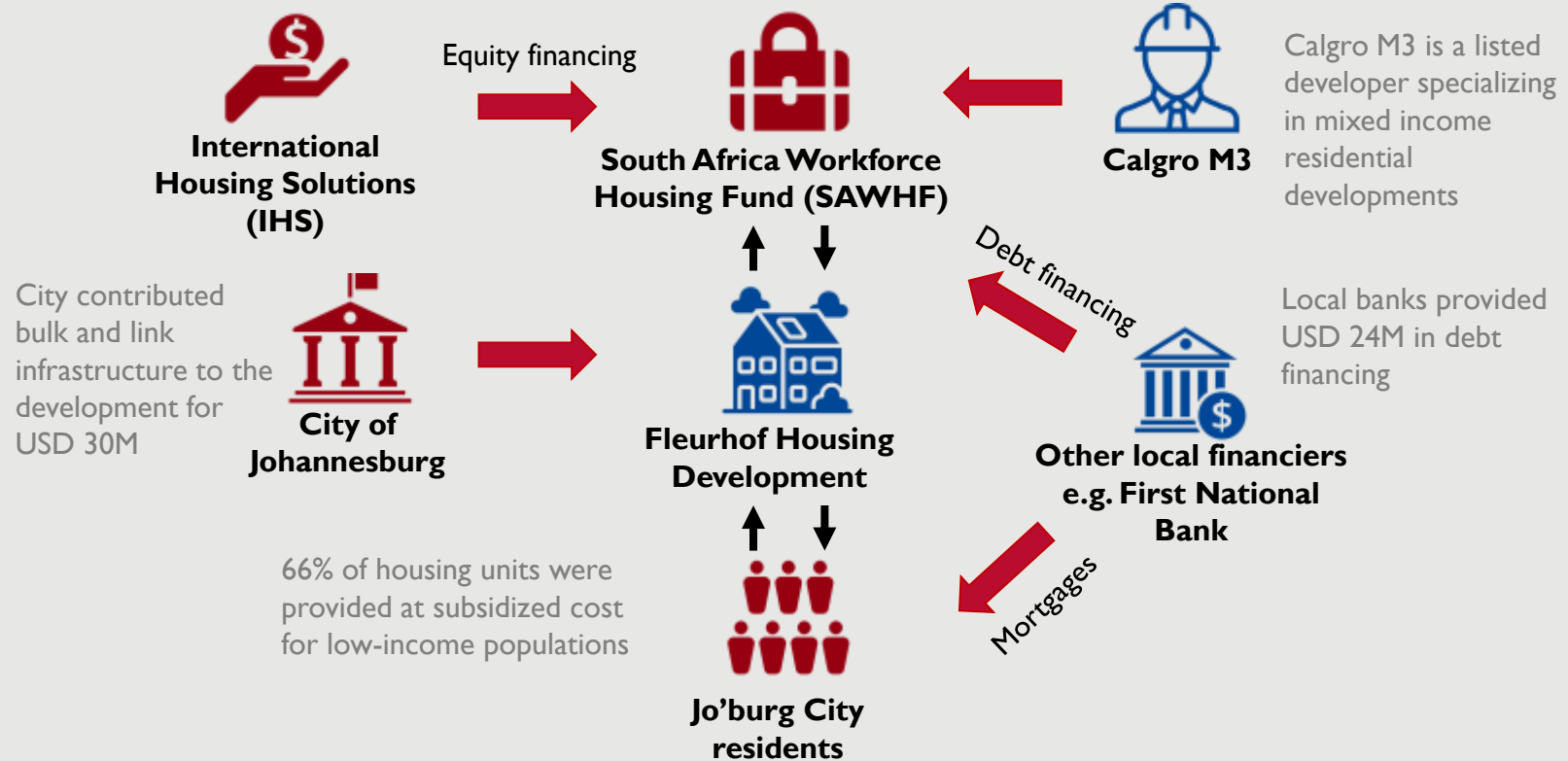
- Rapid urbanization and population growth has continued to place pressure on the availability and affordability of housing in Jo'burg
- The portion of government funding for affordable housing has been declining in South Africa due to strained national budgets

How it worked/The process they went about

- IHS Investments, a PE firm, established a 10-year housing fund working with owners and developers of affordable housing
- A PPP between IHS and Jo'burg for a development at Fleurhof was financed with USD 350M; an initial USD 16M equity funding by IHS & USD 24M in debt from local banks generated a further USD 280M as completion of early stages funded later development phases
- IHS secured additional debt financing from First National Bank
- Jo'burg contributed bulk & link infrastructure at a cost of ~USD 30M

Sources: 1) Univ. of Witwatersrand, Johannesburg, *Affordable Housing PPPs: Case Study* (Johannesburg, S. Africa: Univ. of Witwatersrand, Johannesburg, 2017) 2) Emerging Markets Private Equity Association (EMPEA), *Case Study: Fleurhof Project (South Africa)* (Johannesburg, S. Africa: EMPEA, 2017)

South Africa: City of Johannesburg, IHS and Calgro M3 collaborated to ensure successful execution



South Africa: The Fleurhof development is an example of a PPP leveraging private equity to finance affordable housing

Project outcomes

The PPP generated benefits including:

- ~6K new affordable housing units
- Positive awareness on how PPPs can finance low-cost housing projects
- Establishing a PPP template for private sector affordable housing providers such as IHS

Lessons learnt

The project served as a best-case example of how PPPs can develop low-cost infrastructure with limited committed capital & subsidies from government

Another key lesson was the importance of developing and maintaining strong relationships between private and public sector partners, especially relevant city officials

- Open channels of communication with no political interference resulted from a transparent and objective PPP implementation e.g., in making public land available at an attractive and fair price¹

Mali: Gov't successfully raised a USD 285M bond in Feb 2018 to fund social housing



Key facts

Level	National
Year started	2018
Type of financing	Islamic bond
Financing cash need	USD 285M

Key challenge/Why did they need financing?

- The market for housing finance in Mali remains small and under-developed
- This is in contrast to demand for housing units, which is growing rapidly, especially in urban areas

How it worked/The process they went about

- Raised USD 285M in a 7-yr bond at 6.25% interest p.a. due Feb 2025
- Used a **Sukuk** product design aimed at developing Islamic finance domestically and tapping into demand from Gulf investors: **ijara**, a sale and lease-back contract commonly used in Islamic finance, that is underpinned by social housing projects in N'Tabacoro in the southwest of the country
- Sale was arranged by the Saudi Islamic Corporation for the Development of the Private Sector (ICD) with assets managed by its Senegal-based ICD subsidiary, Taiba Titrisation

Sources: 1) Reuters, *Mali's debut sale of Islamic bonds to fund social housing* (London, U.K.: Reuters, 2018) 2) World Bank, *Mali Financial Sector Assessment Program : Housing Finance* (Washington D.C, U.S.: World Bank, 2015)

Mali: Investment is expected to improve living conditions and stabilize housing rental costs in south-west Mali

Expected outcomes

The investment will be used to generate several benefits including:

- Improved living conditions for low-income populations
- Stabilize housing rental costs
- Define landlord and tenant relations

Lessons learnt

The investment provides a good example of a successful Islamic bond aimed at developing Islamic housing finance domestically and tapping into demand from Gulf investors

Sources: 1) Reuters, *Mali's debut sale of Islamic bonds to fund social housing* (London, U.K.: Reuters, 2018), <https://www.reuters.com/article/islamic-finance-mali/malis-debut-sale-of-islamic-bonds-to-fund-social-housing-idUSL8N1Q40842> 2) World Bank, *Mali Financial Sector Assessment Program : Housing Finance* (Washington D.C, U.S.: World Bank, 2015), <https://openknowledge.worldbank.org/handle/10986/24266>

India: Pune financed their water project through a bond supported by designated repayment mechanisms



Key facts

Level	Municipal
Year started	2017
Type of financing	Bond
Financing cash need	USD 30M

Key challenge/Why did they need financing?

- To protect the city from a crisis a “24X7 Water Project” introduced universal smart-metering, setting bulk flow meters and introducing a Supervisory Control And Data Acquisition (SCADA) system for operational management

How it worked/the process they went about

- To fund this project, Pune launched a INR 200 crore (USD 30M) bond on the Bombay Stock Exchange, as part of a total raise of INR 2263 crore (USD 340M) through subsequent municipal bond issues
- Pune structured a payment mechanism to service both the interest and principal which through: 1) an escrow account where property taxes (includes water tax) were parked, 2) a debt service reserve account, 3) an interest payment account and 4) a sinking fund account

India: The Pune bond was oversubscribed primarily due to the structured repayment mechanisms put in place

Outcomes

- The issue was oversubscribed six times, having received subscriptions worth Rs 1,200 crore over the Rs 200 crore required
- The bonds were rated AA+ and about 30-40 basis points more than bonds sold by state governments

Lessons learnt

Clearly outlining how repayments will be made boosts investor confidence

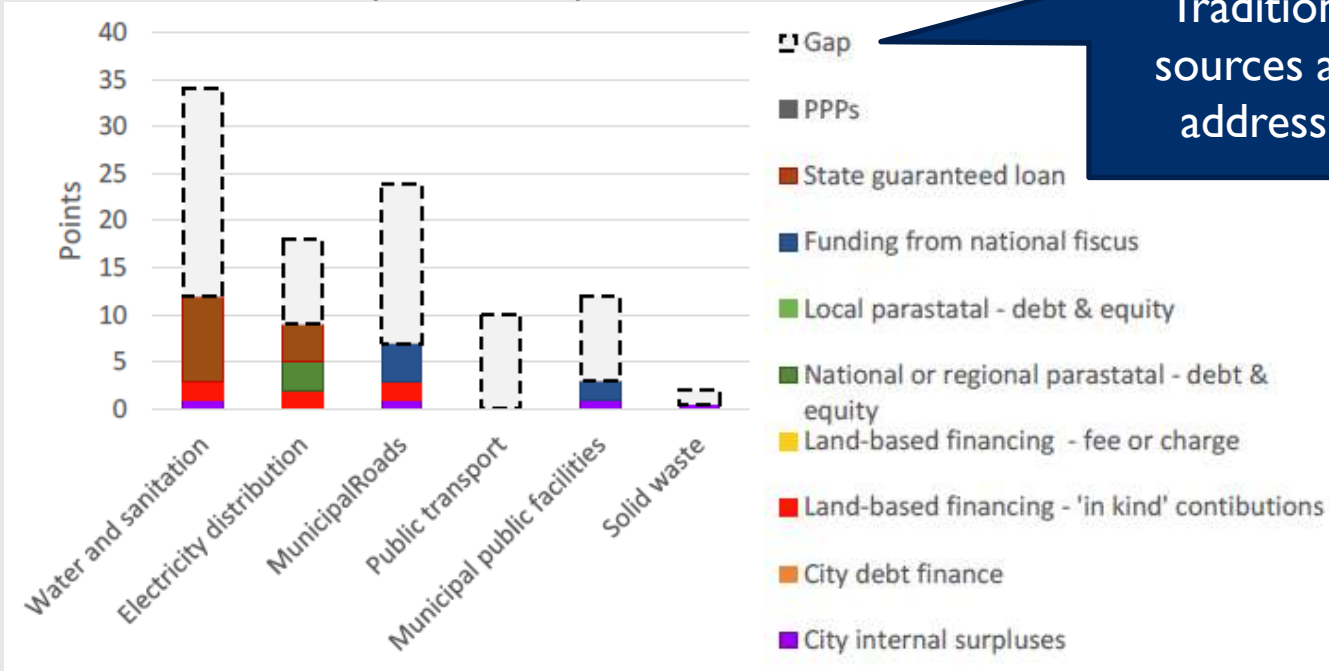
- Pune's clearly laid out repayment mechanisms increased investor confidence by clearly showing that the funds were going to revenue generating activities which would be collected effectively

Pune's successful municipal bond issue was followed by issues from other municipalities, including the Greater Hyderabad Municipal Corporation that raised Rs 200 crore in February 2018¹

Lucknow Municipal Corporation have announced plans for Rs 100 Crore municipal bond to finance a housing project with affordable apartments from Rs 10.5 to Rs 64 lakh (USD 15K to USD 95K)

Municipalities rarely access innovative financing mechanisms

Harare – Indicative capital finance profile

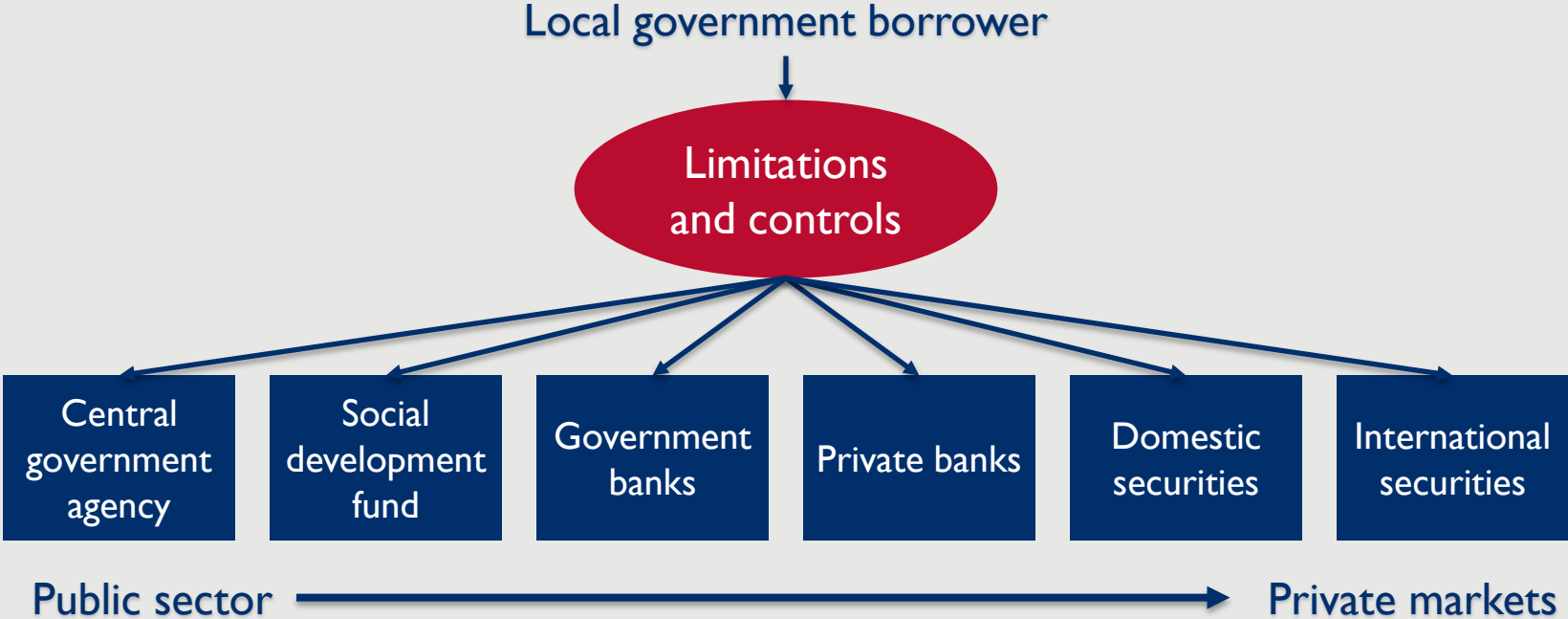


Traditional financing sources alone cannot address these gaps

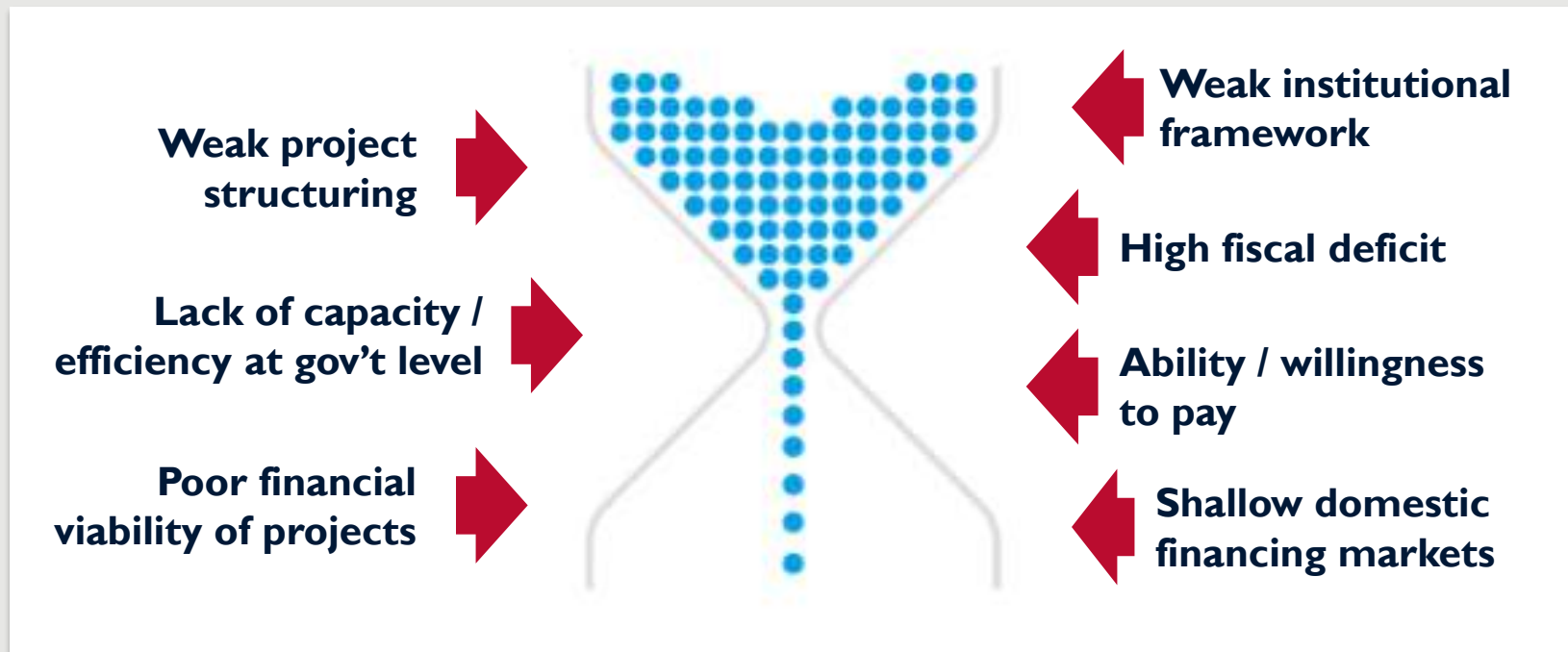
Traditional Sources of Funds for City Governments

	Description	Limitations
Taxes	Property taxes, license fees, sales taxes	Collection efficiency, HH liquidity and belief that payments do not translate into services
Grants	National/ provincial/ county	Timing and availability
User charges	Water, sewerage, drainage, tolls, fares	Poor quality, poor access, collection efficiency
Lease income	Land lease rentals, markets, projects	Limited understanding of inventory of assets and risk aversion

Financial Tools for Cities



Bottlenecks in urban infrastructure financing



THE CHALLENGE

\$114 billion per year – or **three times current investment** – will be required to achieve the SDG of **universal access to water and sanitation**.

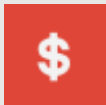
Bridging the **massive financing gap** will require both **public investment** and utilization of **private capital markets**

WASH-FIN's APPROACH

USAID's WASH-FIN provides technical assistance to help municipalities and utilities track and mobilize greater financial resources for improved service delivery



WASH-FIN FOCUS AREAS



PRIVATE CAPITAL MARKETS

WASH-FIN's range of services and tools help reduce risk and build creditworthiness so utilities and municipal governments can access private capital



SUSTAINABLE BUSINESS MODELS

WASH-FIN supports reliable and resilient WASH services through promotion of financially viable and sustainable business models critical for increased investment.



DOMESTIC RESOURCE MOBILIZATION

WASH-FIN supports domestic resource mobilization by building local capacity to track investment and by helping urban areas better leverage local resources.



REPLICATING SUCCESS

WASH-FIN strengthens the capacity of authorities, service providers and local financial institutions through knowledge dissemination, uptake and replication

WASH-FIN SOUTH AFRICA ACTIVITIES

I. TECHNICAL ASSISTANCE TO SUB-NATIONAL GOVERNMENTS

Activity 1.1: Engineering reviews of city water and sanitation plants

Activity 1.2: Financial reviews of city capital investment plans

Activity 1.3: Procurement of consultants for discrete WASH- related development plans

II. TECHNICAL ASSISTANCE TO NATIONAL GOVERNMENTS

Activity 2.1: Enhancement of municipal creditworthiness and shadow credit ratings to enhance the national Integrated Urban Development Framework (IUDF)

Activity 2.2: Financial advisory and management support on other WASH initiatives

III. KNOWLEDGE MANAGEMENT (Workshops for Municipal Leaders to Explore WASH Financing Best Practices)

Activity 3.1: Creditworthiness and capital investment planning workshops

Activity 3.2: Workshops on water scarcity and effluent reuse

Activity 3.3: Knowledge sharing with financial community



CONTACT INFORMATION

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