



# Sustainable Urban Development Action Plan (SUDAP)

## Issues Paper: Subnational Credit & Municipal Finance





AFRICAN DEVELOPMENT BANK

SUSTAINABLE URBAN DEVELOPMENT ACTION PLAN 2021 – 2025

Issues Paper

**LEVERAGING DOMESTIC FINANCE FOR MUNICIPAL  
INFRASTRUCTURE**

**Strategic Options for the African Development Bank**

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## Abbreviations and Acronyms

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AfDB	African Development Bank
BF	Borrowing Framework
DBSA	Development Bank of South Africa
DFV Shanghai	District Financing Vehicle
IGFT	Inter-government Fiscal Transfer
IMF	International Monetary Fund
KUIFIDCO	Karnataka Urban Finance Infrastructure
OSR	Own Source Revenues
OECD	Organisation for Economic Cooperation and Development
PAD	Project Appraisal Document
PPP	Public Private Partnership
PTSMI	PT Sarana Multi Infrastruktur
PIDA	Program for Infrastructure Development in Africa
SDG	Sustainable Development Goals
SUDAP	Sustainable Urban Development Action Plan
TNUDF	Tamilnadu Urban Development Fund
UMDF	Urban Municipal Development Fund
UN	United Nations
UNDP	United Nations Development Programme
WB	World Bank

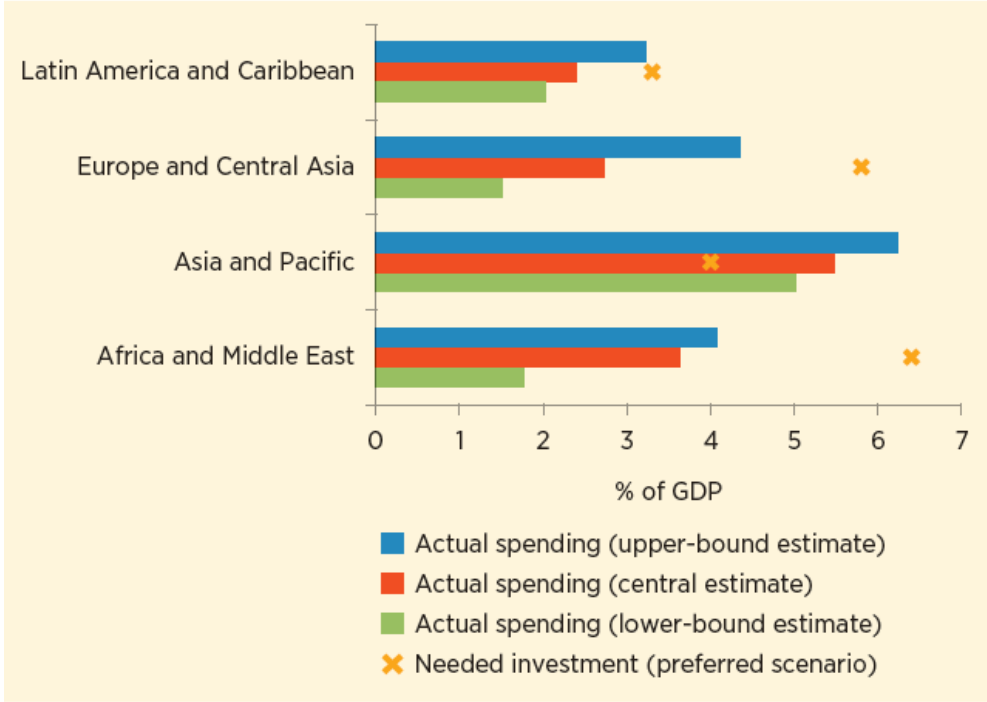
# 1. INTRODUCTION

## 1.1 Context

Cities in African countries face the challenge of investing in infrastructure in the context of rapid urbanization where people are settling faster than investments can be made and the pace of urbanization is increasing, with over 1 billion more people being added to cities in the next 30 years. Investing in city infrastructure is integral to most development strategies, and there is recognition that these investments are significant drivers of growth and human well-being. For example, improved roads and transport allows for greater mobility of people, goods and services, cleaner water and sanitation lowers morbidity, and green spaces improve the city environment. These investments are expected to unleash agglomeration benefits of cities. There is also ample evidence that these huge infrastructure gaps in cities of developing countries are holding back opportunities to reduce poverty and inequality (See AfDB 2018 for estimates of investments on growth and inequality<sup>1</sup>). Globally, apart from Asia it appears most regions face significant gaps (See Figure 1. below, for an estimate of the gaps with most regions facing huge deficits).

**Figure 1: Infrastructure Needs and Gaps (By Regions)**

*Summary estimates for infrastructure investment as % of GDP in 2011, compared to investment needs in preferred scenario*



Source: Fay and others 2019.

1

[https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2018AEO/African\\_Economic\\_Outlook\\_2018\\_-\\_EN\\_Chapter3.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2018AEO/African_Economic_Outlook_2018_-_EN_Chapter3.pdf)

Institutionally, since the 1990s there is increased emphasis on local empowerment, which is reflected in most national legislation. These decentralization laws typically embody the principle that city-level infrastructure is best produced and financed locally, based on demand-driven needs that are articulated through community processes. This trend towards decentralization appears to be global, across countries of varying levels of economic development, and implies that city governments must have the authority to plan, design, finance and pay for the public goods that they produce. (See the French decentralization laws 1983, India -74th Constitutional Amendment in 1992, Indonesia Local Government Codes 1992, South Africa-Municipal Finance Management Act, Philippines-Local Government Code 1991, Ghana 1992 etc.)

However, the implementation of this decentralization agenda been unbalanced in many countries, with the responsibilities transferred from national to local levels frequently unmatched by the transfer of corresponding powers, often leading to functional fragmentation (who does what in the city?). There is also the issue of geographical fragmentation - governance boundaries that are slow to catch up with the urban and often dense settlements outside city jurisdictions (which governance unit is responsible for services?). Both types of fragmentation are visible in most metro cities, but exist in smaller cities and affect infrastructure creation and service delivery in small and medium cities. Governance reform to reduce both types of fragmentation (by introducing accountability of parastatals to local governments and flexible municipalization criteria to handle the physical expansion) are necessary in many countries. Such fragmentation also affects financing by limiting the size of the market and hence raising average costs.

Apart from the imbalances in powers and responsibilities, there are unfunded mandates caused by imperfect fiscal transfer rules. There is considerable variation in the share of these assigned revenues across and within countries, as well as in the predictability and timeliness of these transfers. There are also major differences across countries within Africa, in the shares and types of own-source revenues that are allocated to local governments, including powers to assess, set rates, collection mechanisms and efficiency rewards. Reforms that improve the rationality of assigned sources and the efficiency and buoyancy of own sources are necessary and underway in many countries. (See IBRD 2008, for examples and also Para2.3, AFDB SNG 2019, Ethiopia, Kenya etc.)

Reforms to improve both assigned and own sources are important in themselves, but are critical if local governments are to be held accountable for mobilizing finance for infrastructure, rather than remaining passive responders to scattered grants. Further, without these reforms, municipalities would be unable to leverage these public sources of finance with private sources with the consequence that city infrastructure will continue to be sub-optimal.

Given the gaps between required investments, and the available public sources of finance, policies that support leverage become critical. (See Table1. below, for estimates of Public and Private Investments). Without leverage, African cities will not achieve scale and continue on low-level growth trajectories (See AfDB 2018 and FN1 below, for a study of infrastructure gaps, including energy). It is no surprise that policies that emphasize leveraging domestic sources of finance have received increased policy attention (AFDB SNG 2019, Addis Declaration 2015).

**Table 1: Means of Finance: Public and Private**

*Public spending as a % of total infrastructure investments, by scenario and region, 2011*

<b>Region</b>	<b>Lower-bound estimate</b>	<b>Central estimate</b>	<b>Upper-bound estimate</b>
East Asia and Pacific	98	98	98
Europe and Central Asia	70	83	89
Latin America and Caribbean	71	75	82
Middle East and North Africa	83	94	94
South Asia	53	62	60
Sub-Saharan Africa	66	75	82
LMIC average	87	89	91

*Source:* Fay and others 2019.

*Note:* LMIC = low- and middle-income country.

Leverage is typically achieved on a sustainable basis when there is a borrowing framework that provides access to capital for cities of all sizes, an opportunity for repetitive access as opposed to one-shot special deals. Municipal infrastructure investments typically occur in cycles, depending on the life of assets, and replacement financing requires repetitive access. Apart from replacement financing, newer assets are likely to become municipal responsibilities, such as adaptive and mitigatory climate investments. For a municipal finance system to achieve leverage, city governments would have to demonstrate clear revenue streams to service debt. This implies that national and municipal policies have to strengthen the three pillars of municipal finance - Own Source Revenues (OSR), Intergovernmental Fiscal Rules (IGFR) and the Borrowing Framework (BF).

Reform actions to link city financing needs with domestic capital could be expected to crowd in private finance, reduce risks, lower transaction costs and remove contingent liabilities for national governments. These outcomes would require transparent rules, for example, rules of access to security mechanisms, such as escrow accounts, asset recognition, taxation and provisioning norms. These actions and the strategic options for AFDB and its RMGs motivates this paper (See Section 4, AFDB-SNG 2019).

## **1.2 Purpose**

This paper aims to provide the financing options and complements the work presented in other chapters of this report. The specific purpose is to:

- Assist AFDB in identifying national and city level actions that enable leverage of public with private sources of finance.
- Contribute to AFDB’s participation in major international efforts including the implementation of SDG’s Climate and Addis agreements on financing.



- Provide a scoping report for Municipal Finance agenda of AFDB with particular reference to SUDAP/UMDF (See SNG-AFDB 2019) and identify a potential lending strategy for the bank.

### **1.3 Structure of this Paper**

The second section of this paper describes the infrastructure assets that need financing at the municipal level, the main components of a municipal financing system, and the types of finance that would be typically available for local governments to leverage. The third section reviews relevant international experience with leverage, both in developed and developing countries, in order to support appropriate design for countries and cities in Africa. The fourth section suggests policies, programmes and interventions for SUDAP/UMDF based on its Sub National Guidelines.

## **2. MUNICIPAL FINANCE FRAMEWORK**

### **2.1. Municipal Infrastructure: Demand and Supply, Categories and Financing Instruments**

#### **Demand and Supply**

Cities in developing countries face increasing demand for investments in growth inducing infrastructure – roads, transport systems etc. as well as investments such as water and sanitation. To attract private debt, cities must have the legal authority to borrow, create, and pay for the use of the assets over time and be able to demonstrate a clear revenue stream to repay the borrowings for potential lenders to assess. Thus, the effective demand for debt financing would depend on the rationality of the intergovernmental fiscal rules and the stability of own source revenues (including powers to levy and raise user charges) - the two factors which principally determine municipal revenue streams.

The supply of long-term debt would broadly depend on two sets of factors. First, macro determinants such as the savings rate, dependency ratios, etc. and second, the policy variables, such as fiscal incentives, which make available the use of these funds for longer term infrastructure investments rather than public consumption and the fiscal space for local governments (PWC 2018, Brookings 2015).

Fortunately, economic growth, itself is a source of high savings and a key policy challenge, has facilitated a mechanism for linking these growing city investment needs with the supply of long-term domestic debt finance (See FMDV 2015). The sources of long-term domestic debt would essentially be insurance and pension funds, and in some cases, direct subscription by the affluent in the city.

Apart from debt, since the 1990s there has been the perception that urban infrastructure assets can be financed through private equity, and equity returns can (through user charges or viability gap funding) the risks in these investments. This perception has probably been strengthened by growing disillusionment with public management, and private equity is viewed as an alternative option where management skills can be located, in face of the seemingly impossible task of public sector reform. The viability-gap financing model that allows for grant payments for equity financing is an implicit subsidy for private profits and a reward presumably for this efficiency premium.

It is clear that private equity would tend to finance projects rather than cities through project recourse financing, as contrasted with entity financing whereby debt can be supported through general obligation financings. Further, it is evident that equity finance would need not only the same comfort as debt financing (stable revenue streams), but also project structures that provide a return on equity. However, if these projects need long term debt too (on account of low initial user charges and limited scale), then this feature limits the return on equity (low tails as debt period and concession terms are similar). Further still, private equity would need additional legal comforts, as the investments are predicated on multiple cash flows, user charges, taxes etc. The share of equity PPP in different sectors can be seen in figure 3, the high shares of ICT and energy and the relatively lower shares of water and sanitation.

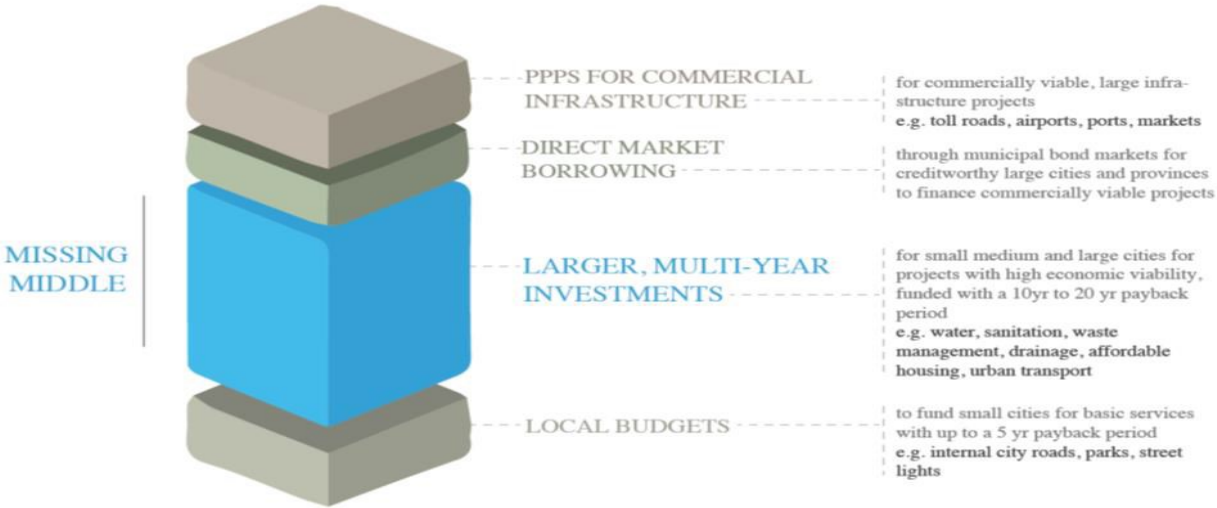
## 2.2. Municipal Infrastructure: Categories

From a financing perspective, urban infrastructure investments can be divided into three categories:

- first, investments that are more in the nature of public goods – parks, city roads etc. and hence would need recourse to taxes to service debt;
- second, investments that are more private in nature but still need capital subsidies - for example, water and wastewater, solid waste – where user charges and taxes can be used to service debt; and
- third, pure revenue projects like toll roads where the recourse is directly to user charges to service debt and equity.

The financing challenge is higher in the second category, named as the "missing middle" (see Figure 2 below) where public funds would need to leverage private capital.

**Figure 2 Missing Middle of Urban Infrastructure Finance**



Source: Project Appraisal Document, 1579 Regional Infrastructure Development Fund, Indonesia, World Bank 2017

The above categorization is useful not only analytically, but also from an institutional (and taxpayers') perspective as the municipality's financial strength is assessed as an integrated entity. If, for example, some assets such as toll roads can service private equity investments solely by user charges, then the city's balance sheet is freed up to use its own revenues for projects which do not generate cash flows such as parks. On the other hand, if the toll road concessions need recourse to municipal owned revenues then the concession limits the potential projects which the city can take up. Looking at the municipals finance as a whole, and being aware of binding constraints, allows prioritization to be based on local choices .

The need to view municipal financing as that of financing an entity rather than a bunch of projects is sometimes complicated by fragmentation of responsibilities. Clearly, some of these infrastructures are technically linked, for example, water and wastewater, and if the assets are owned by different entities in a city, (as in many African cities) the financing becomes problematic, as the responsibilities for asset creation becomes functionally fragmented. A similar problem is if urbanization is rapid on the periphery of municipal boundaries, then geographic fragmentation would make financing more difficult as water and wastewater do not respect municipal boundaries.

This "entity" nature of financing also implies choices regarding giving up future revenues for a particular investment path chosen in the present. This feature of binding future generations would seem to require institutional rules for obtaining the consent of the governed. Some countries have this in place - in the US, for example, 'Intended Use Plans' statutorily specify the process guidance for seeking taxpayers' approvals. In many developing countries there is very little by way of institutional requirements, a situation which makes borrowing decisions and PPPs contentious, and subject to frequent and non-transparent renegotiations.

Another aspect of municipal infrastructure that is of global significance is the mitigation and adaptive measures to handle climate change. There are various green finance initiatives, including other MDBs that have established special green funds (see Asian Development Bank 2019). In the context of this paper, it would appear that amongst publicly owned infrastructure at the municipal level, the transport sector would be the major investment destination. Apart from transport, other aspects of green financing including the need to leverage are clearly applicable to municipal-owned assets. In the context of this paper, Johannesburg is the first municipality to list a green bond at the Johannesburg Securities Exchange (JSE). The R1.46 billion bond COJGO1 was priced at 185 basis points (1.85%) above the R2023 Government Bond and will mature in 2024. The money raised through the bond will be used to finance green initiatives such as the Biogas to Energy Project and the Solar Geyser Initiative, as well as all other projects that reduce green-house emissions and contribute to a resilient and sustainable city.

## **2.3 Financing Instruments: Debt and Equity**

### ***Debt***

Most urban infrastructure investments, especially environmental ones, are capital intensive, long gestation investments that generate externalities across municipal boundaries. Their long life implies that benefits accrue over at least a generation and hence the costs should be similarly inter-generationally spread in the form of long-term debt. For example, water and sewer mains get replaced once every thirty years. Additionally, in many cases, public good characteristics (non-excludability in consumption) imply that user charges by themselves can rarely be expected to cover capital costs, maintenance and replacement. Subventions are either needed as grants in the capital financing, or subsidized interest rates.

Further, in smaller cities (which limit the economies of scale) and in lower income countries, the potential for full user charges is further constrained. For example, a wastewater system, at best, takes three years to build and involves construction and connection risks with little or no cash flows during this period. This implies the need for initial repayment moratoriums and also perhaps the need to complement debt with grants, especially if low-income populations constrain the ability to pay. Further in small towns, the low volume of connections would keep the user charges needed for debt service high.

These facts suggest the appropriateness of long tenor debt finance which allows user charges to grow gradually over time (as water and wastewater connections increase). Further, debt for municipal infrastructure would need to be denominated in local currency since most of these assets do not earn foreign currency revenues, and exchange rate volatility could pose major shocks for financial viability.

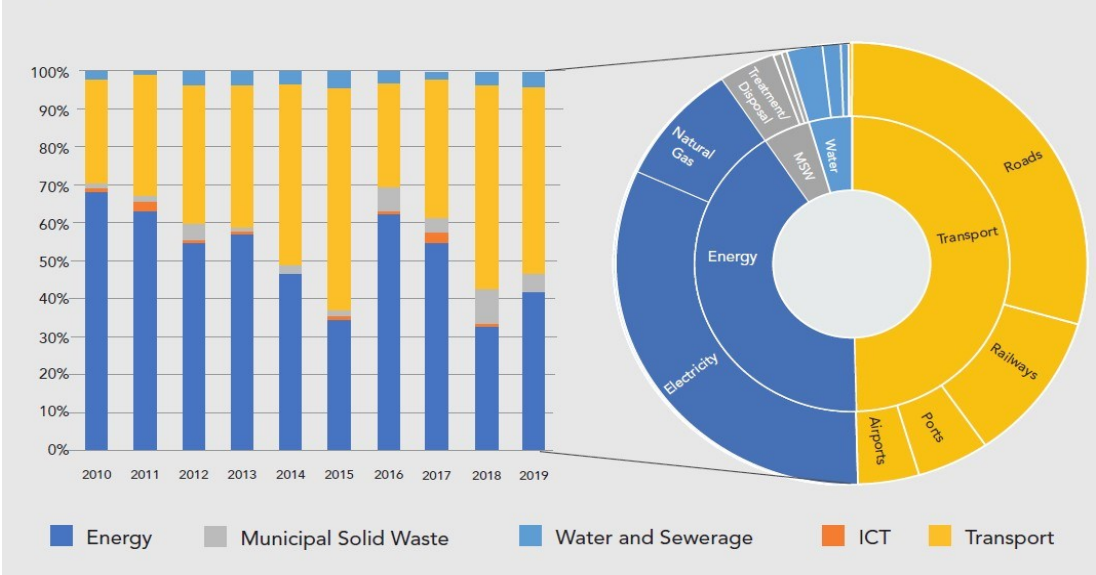
**Equity**

Equity is a preferred instrument if urban infrastructure investments can generate robust third-party sales (as is in the case of telecoms and power) with users paying for products. This is also possible in inter-city toll roads, and commercial investments such as municipal shopping markets. On the other hand, for the first two category of investments identified above, the prospects for mobilizing equity appear limited without substantial subsidies.

Institutionally, there would have to be a guidance process in place for choice of the concessionaire (unsolicited offers versus competitive bidding) rules for handling multiple ownership (a city water concession may depend on adequate flows from a source owned by the state), and security for the lenders (step in rights etc). Thus, equity investments in urban infrastructure (water and sanitation) are limited internationally (in developed and developing countries) as compared with energy and transport (see Figure 3 for sectoral shares of PPP's). Similar evidence is available for Africa from the AFDB/PIDA study (2019)

**Figure 3:**

Share of Sectoral Investment Commitments in Infrastructure Projects with Private Participation in EM-DEs, 2010-2019



Source: PPIAF 2020

### **3. THE CHALLENGES AND OPPORTUNITIES FOR EFFECTIVE LEVERAGE– INTERNATIONAL AND AFRICAN EXPERIENCES**

This section discusses international experience in mobilizing domestic finance for urban infrastructure, with the expectation that this review would assist in identifying key design features and mechanisms that can inform policy choices for UMDf.

#### **3.1 Types of Leverage**

Mobilizing private capital for financing city infrastructure needs are usually described as PPPs in policy debates, and there are various uses of the term PPP. The first two are below and are relevant to our discussion of leverage (see Streeter, 2011 for distinctions between the first two):

- (i) First is the mobilization of private debt by public authorities (namely municipalities) to design, finance and create infrastructure and repay debt from project and municipal revenues.
- (ii) Second are the private-equity companies setting up Project Companies (Special Purpose Vehicles) with recourse to project cash flows and other revenue streams (capital grants upfront or taxes to supplement user charges).
- (iii) Third, are methods of capturing values that arise on account of improved infrastructure, particularly relevant in transport financing, more a cost recovery tool than an upfront method of capital mobilization.
- (iv) Fourth, are the partnerships between municipalities and communities in sharing the costs (usually maintenance) of assets (typically sanitation) created in low-income neighbourhoods. Though the institutional framework for these partnerships is often unclear, they are important from a poverty perspective and are more inclusive investments in these neighbourhoods.

This paper primary focus is on the first type of PPP, the primary concern being the mobilization of financing aspect. The equity PPP and land value capture tools are at the project level, while the focus here is systemic –actions needed to improve the financing system as a whole rather than financing a cluster of projects. Equity PPPs are also expected to enhance managerial efficiencies, however this aspect is not a specific focus of this paper. As equity PPPs are relatively few, it is difficult to compare them rigorously with the operational efficiencies of the predominantly public managed systems.

#### **3.2 Leveraging with Debt: Developed Countries**

Mobilizing private debt for municipally owned infrastructure can be characterized into two types, namely, a commercial bank (as mostly in Europe) and capital market approach (dominant in the US). Both models link city financing needs with domestic debt, through intermediation, usually set up with public ownership. The key difference between the two is that in the commercial bank model, the risks of default fall on the balance sheet of the bank. Given these risks, the loans would have to price in (include) dividends based on the risk-reward appetite of the lenders and the credit risks of the borrower. On the other hand, the US Bond Banks have low equity, with repayments relying on local government cash flows and credit enhancements. As a consequence, the need for dividends being a high proportion of loans is limited.

Bond banks were created in the U.S. for three distinct purposes; first, to provide access to the capital markets for small municipal governments, second, to reduce transaction costs through the pooling of projects and third to raise domestic debts at the lowest possible cost to borrowers and hence taxpayers. A private ownership / dividend paying structure is not part of the model. Complementing the bond banks are the State Revolving Funds (SRFs), which are specially designed for water and sanitation investments and mandated by environmental regulations of the Wastewater Act passed in the 1970s. The SRF's was the financing tool to assist local governments finance this environment infrastructure by leveraging state grants with domestic debt (Johnson 2012; Baker 2003).

The key feature of this type of financing is the legal structure of the transaction and not the balance sheet of the issuer. In evaluating bond bank financing, investors and rating agencies look to the rights and remedies provided to bondholders in the trust indenture, the credit enhancement facilities, and the structure of the financing rather than a bond bank's balance sheet, which does not constrain the ability to raise debt.

An essential feature is the involvement of federal/state governments in water and sanitation financing through the SRFs. These funds receive seed capital from the national government and are highly effective at leveraging private sector financing for local clean water infrastructure projects. Under this model, SRFs place seed capital in reserve accounts designed to enhance credit financing to pooled local projects. As repayments of local loans flow back to investors, the SRFs are able to redeploy their seed capital to credit enhance new projects. The advantage of this direct market access through pooling is of course that the costs of credit are kept to a minimum, especially since the ratepayer is the ultimate beneficiary as tax monies are used in providing the capitalization of the SRFs (USAID 2005).

The unique feature of these systems is first, the capacity of the States to leverage their loan funds in the municipal bond market, with more than one-half of the States now leveraging their funds, collectively accounting for \$8.8. billion or 36% of the funds in the lending pool. Further, the loans serve a broad spectrum of the population. In 2015, communities of over 100,000 have received 43% of loan funds with mid-sized communities in the 10,000 to 100,000 range accounting for 35% of the loans, and 22% of the loan dollars have gone to small communities of under 10,000 in population. Conversely, of the 5,680 loans made thus far, 58% were made to communities under 10,000 in population ([www.municipalbondsforamerica.org](http://www.municipalbondsforamerica.org)).

The European experience indicates that the major sources of debt finance for local governments are met by specialized institutions, although some of these local governments have succeeded in raising resources directly from bond issues in the market. However, even in these cases, the issuing local governments are large entities with greater financial powers than average. The data indicates that if direct borrowing or borrowings through specialized institutions coexist, the choice between the two would rest on the size of the city and its balance sheet (Andersson 2014).

The differences between the US and European experience can, however, be overstated as many of the specialized intermediaries, such as Kominvest in Sweden and Norwegian Municipal Bank in Norway have predominant municipal ownership. The recently formed ADL in France is also municipal owned. The main conclusion is that both models have been remarkably successful in leveraging government grants with private finance in a manner that is systemic, open access, and for all size-classes of cities. The Scandinavian and Dutch funds alone had mobilized up to 125 billion Euros by 2014 and together, namely the US and European systems, have together leveraged USD 1 trillion by 2015 (FMDV 2015).

### 3.3 Leveraging with Debt: Developing Countries

We now turn to a discussion of developing country experiences with mobilizing debt. Up until the mid 1990s, traditional methods of financing in most countries for large as well as small and medium cities have been by way of intergovernmental loans and guarantees. The key features have been financing pre-elected projects (rather than demand driven), that are contracted out to parastatals. As the city governments were usually neither involved in the design, nor in the implementation, collecting user charges and repayments ended-up being problematic, with the loans ending up in default in several countries. (For Indonesia - see Lewis -2017, China DFV 2008, and India - Malathi 2007).

However, since the 1990s, especially after decentralization reforms, municipalities have been encouraged to plan, design, raise finances and pay for infrastructure on the basis of local priorities. These reforms have been underway across diverse countries such as Columbia, Bangladesh and Ghana, as well as across provinces, within larger, federal countries, such as India, Nigeria, and Brazil, where municipal reforms are typically a provincial responsibility.

These reforms typically consist of policies that empower local governments through rationalizing intergovernmental flows (South Africa, Ghana -See Local Government Support Project MLGRD Columbia, Philippines), and strengthening own revenues (Indonesia, Tanzania (See World Bank, Report 71215, 2014) Further, recognizing that the needs of smaller and medium cities are perceived as too small (high transaction costs) for direct market access, many of these emerging economies have invested in structures to pool these demands and lower risks through intermediation. The outcomes of these major institutional reform efforts on both the demand and supply side show:

(i) Larger cities with medium-term investment plans have been able to repeatedly access local capital markets and establish a credit relationship with the private sector. Examples include -Johannesburg, Shanghai, Ahmadabad, and Ho-Chi Min. See Table 2, below for the Indian case.

(ii) Smaller and medium cities have found ways to access the capital market through intermediaries. Examples include – Colombia-FINDETER, South Africa- DBSA, India - State of Tamilnadu, and Indonesia-PTSMI. As of 2016, pooled finance mechanisms have raised over USD 2.6 billion for small and medium city infrastructure (FMDV 2015).

**Table 2: Recent Municipal Bonds in India**

Issuer (Year)	Pune Municipal Corporation (2017)	Indore Municipal Corporation (2018)	Greater Hyderabad Municipal Corporation (2018)	AP Capital Region Development Authority (2018)
Loan size (Rs Crore)	200	140	395 (Tranche 1 – 200 cr in Feb 2018 and Tranche 2 – 195 cr in Aug 2018)	2000
Coupon	7.59%	9.25%	8.90% and 9.38%	10.32%
Tenor	10 years	10 years (Call/ Put option in 7 years)	10 years	10 year (5 year moratorium)
Credit rating	AA+(SO) by India Ratings and CARE	AA (SO) by Brickwork and SMERA	AA by CARE Ratings and India Ratings	AA-(SO) by Brickwork A+(SO) by CRISIL
Secured/ Unsecured	Unsecured	Secured	Unsecured	Unsecured
Guarantee	No	No	No	State Guarantee
Issue of proceeds	24/7 Water supply (SMART City)	AMRUT project	Strategic Road Development plan	City infrastructure

Some of these major national level reform efforts – Colombia (Box1), the Indian state of Tamilnadu (Box 2) - are highlighted below, suggesting that when reforms have been concerted and efforts have been focused on IGFT, OSR and BF, the leverage has tended to be substantial and sustainable.

**Box 1. Colombia: Integrated Municipal Reform**

Colombia provides an outstanding example of decentralizing both responsibilities and resources. Since the 1991 constitution, transfers of central government revenues to municipalities and urban regions increased from an already substantial 36.5% of current revenues to 46.5% in 2014.

Table 3.2 Columbia's Traffic light system for regulating sub-national borrowing		
Rating	Indicator	Borrowing Restrictions
Green	Interest as % of operational savings less than 40% and debt stock as %of current revenues less than 80%	No restrictions
Yellow	Interest as % of operational savings 40%- 60% and debt stock as %of current revenues less than 80%	Loans with Ministry of Finance Approval
Red	Interest as % of operational savings greater than 60% or debt stock as %of current revenues greater than 80%	No lending without adjustment plan

On the supply-side, FINDETER, a second-level financial intermediary, has assisted commercial banks to take part in municipal lending and now accounts for 15% of municipal lending. Prudent legal requirements set out in 1997 legislation - known as the 'traffic light' system (see table 3.1) - have managed to keep defaults low. Despite this strong financial performance, FINDETER's domestic sources are short-term while it lends long term, reflecting the lack of long-term capital in the domestic market. Since the mid 2000s, this constraint has been eased by extending maturities up to 12 years for municipal loans compared to the average loan maturities of 3 to 5, as FINDETER is able to raise longer tenor debt.

Source: Chew, Matsukawa and Peterson Local Financing for Sub-Sovereign Infrastructure in Developing Countries.: World Bank Discussion Paper No 1 IEF Department

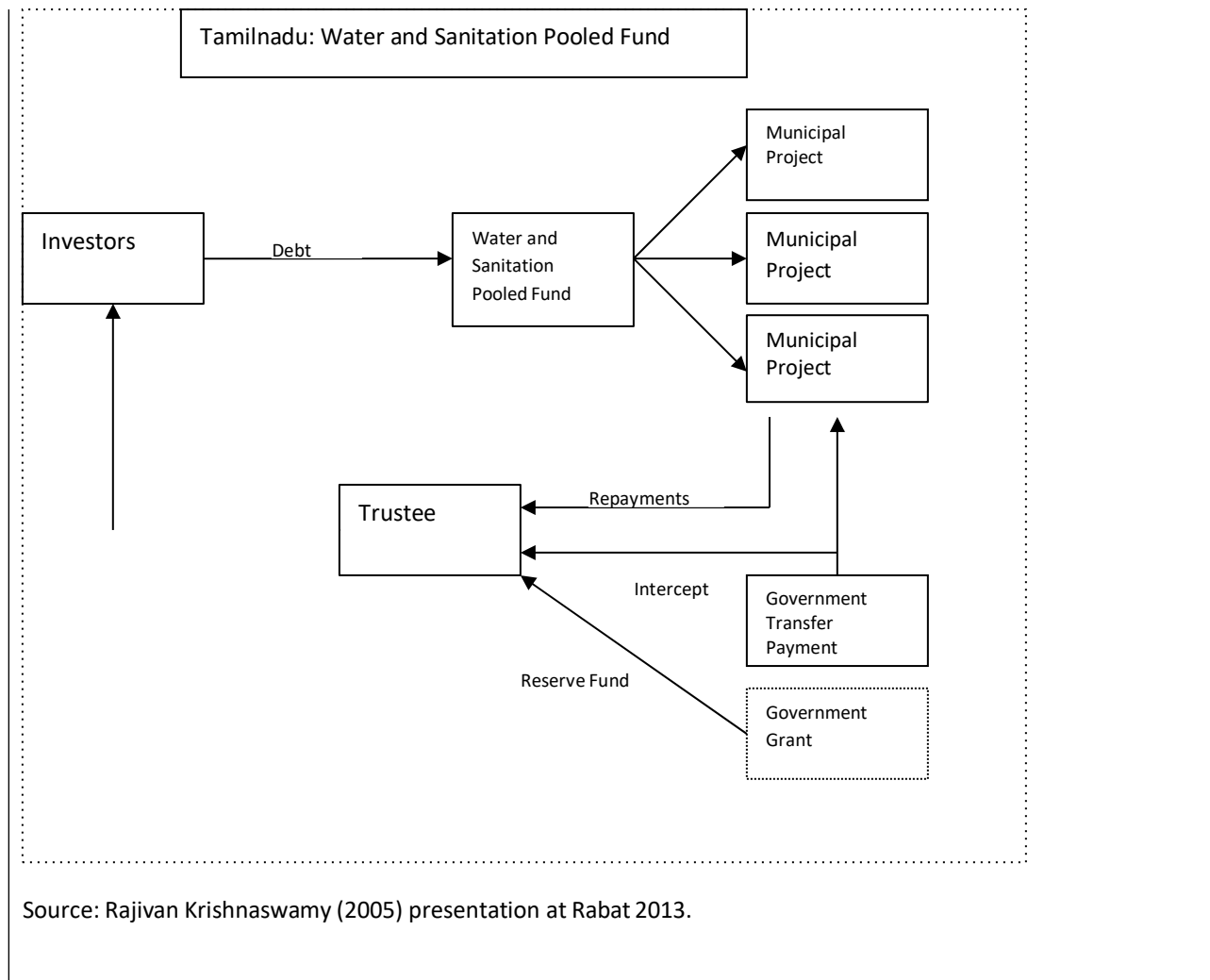
**Box 2. Tamilnadu State- India, Empowering Municipal Decisions**

Major political, legal, administrative and financial reforms were undertaken in the Indian state of Tamilnadu in the mid-1990s. These reforms included the linking of fiscal transfers to state taxes (rule based rather than on patronage), strengthening own sources (including powers to set rates) and setting up a supply side intermediary.

Recognizing the need to lower costs for water and sanitation investments, the state government set up the Water and Sanitation Pooled Fund (WSPF) in 2003, as a trust with limited equity, and eliminating dividend expectations. WSPF, with little recourse to the capital, relied on credit enhancements of a debt service reserve fund and repayment from borrowers' taxes and fees. The average size of projects was USD 1 million (drinking water connections, pumping stations etc) and by pooling these demands, WSPF raised USD 10 million through a bond issue (rated as AA with a spread of about 70 bps over state government borrowing cost). A study of the bond issue of WSP demonstrated that domestic private debt can finance municipal infrastructure at low costs, if sufficient attention is given to the design of the intermediaries' capital structure and security structures.

The diagram below explains the nature of the financing – the municipalities bearing the risks of repayments. The initial investors in the bond were commercial banks and the project size (less than USD 10 million individually) shows the efficacy of intermediation. The secondary investors in the bonds were private pension funds - evidence of the maturing of the debt market, and the ability to sell municipal obligations to long term private funds, seeking fixed income returns.





### 3.4 Leveraging with Debt: African cities

African cities have accessed debt through direct market issues as well as through financial institutions such as DBSA (South Africa) FEC (Morocco) and ADL (Senegal). Discussed below are case studies from Africa, South Africa (Box 3), City of Dakar (Box 4) and Doula (Box 5) that have attempted to mobilize domestic capital.

The South African financial reforms were also accompanied by major changes in municipal boundaries, including municipalization criteria.

### **Box 3. South Africa-Post Apartheid Municipal Transformation**

Post-apartheid, South Africa's efforts at building national-city government relationships deserve special mention since they serve as a good example of national government working in tandem with city governments and the financial market on municipal finance:

Enabling Policies and Actions by the National Government:

- Legal Framework for Local Government Reform through the Municipal Structures Act,1998, Municipal Systems Act,2000;
- Financial Framework for Municipal Budgeting, Accounting and Borrowing provided by the Municipal Finance Management Act, 2003, National Treasury rules,1998;
- Definitive Intergovernmental Finance Framework ensuring the stable flow of financial resources to city governments from higher tiers as well as a three-year indicative allocation of such transfers.

For example, the city of **Johannesburg**:

- Developed and implemented a three-year Strategic Plan, called "Egoli 2002";
- Improved its liquidity by improving billing and revenue collection (see chart);
- Changed the orientation of municipal service delivery by corporatizing and converting them into autonomous utilities under city ownership;
- Successfully issued municipal bonds in 2004 and 2005 to finance its capital investment requirements

Source: Hunter, Roland, Presentation at the IADF Conference, Washington DC Sept20004

City of Dakar had planned to raise market resources using credit enhancement instruments such as partial credit guarantee and a debt service fund.

### **Box 4. City of Dakar**

According to the filing with the local market regulator (the CREPMF), the city planned to use the funds raised from the bond issuance for the installation of a new marketplace, with stalls and kiosks offered for rent at subsidized rates to offer a wider range of opportunities to the city's many street vendors. Approximately 25 per cent of the funds would be spent on the acquisition of the centrally located parcel of land (already demonstrated to be under contract to the city), with the remaining 75 per cent for the design and construction of the physical marketplace. Written confirmation of non-objection to this proposed transaction from the government ministry handling local governments, coupled with a careful reading of the constitution, made the municipality confident that its efforts, and those of its supporters, would result in a transaction.

Unfortunately, the City of Dakar ultimately did not launch its bond in 2014 as originally planned, due to a last-minute intervention by the central government. This unexpected challenge, based first on questions of constitutionality and later amended to reflect concerns about the impact on the country's overall level of indebtedness, prompted the city to file a lawsuit against the central government. Although unsuccessful in overturning the central government's opposition to the bond issuance, it has left the door open for future attempts to introduce municipal bonds in Senegal.

Source: Gorelick 2019. Supporting the Development of Municipal Bonds in Sub Saharan Africa, Environment and Urbanization 2019

The Doula Bond had attempted to get wider access to retail investors through reducing the coupon sizes.

#### **Box 5: Doula: Municipal Bond**

The city of Douala, the financial capital of Cameroon, issued a five-year bond in 2005 through a special purpose vehicle called CUD Finance (Communauté Urbaine de Douala Finance). It was designed to assist the municipality with raising funds for urban management and development. This CFA 16 billion bond (approximately US\$ 22 million) was jointly initiated by the central government and its representation in Douala in an effort to diversify the city's financial resources. It was fully backed by the central government in accordance with the constitutional constructs of Cameroon's unitary government. The transaction was unique in that it represented not only the first municipal bond in the region, but also the first issuance at the Douala Stock Exchange since its inauguration in April 2003.

Unlike the bond issuance in Johannesburg, the smallest increment was far more accessible to retail investors; the minimum increment for Douala's bond transaction was CFA 1,000,000, or US\$ 1,400 (compared with Johannesburg's 1,000,000 rand minimum size, or US\$ 159,000). Additionally, the bond issuance was completed in three tranches, which differed in terms of the interest offered. The first tranche was offered with a fixed interest rate, the second with a variable interest rate, and the third without any coupon payments, but with a premium paid at the time of the maturity. This approach allowed the city an opportunity to defer some of the costs of borrowing and helped to make the bond more appealing to a wider pool of investors.

Source: Gorelick 2019

### **3.5 Stylized Facts**

The review of municipal finance frameworks suggests the following stylized facts:

- (I) the ability of cities to attract private domestic debt on a sustained basis is dependent on the stability of revenue streams over the life of the loan. This, in turn, crucially depends on the predictability of internal and external sources of revenue. Rational and rule based intergovernmental fiscal transfers and buoyant own sources of revenue bring stability to revenue streams and facilitate private finance ability to assess risks.
- (II) Intermediation (for smaller cities and smaller transactions for larger cities), either the commercial banking or the capital market model, would need to perform two functions, namely lending and raising resources so that the system is sustainable.
- (III) the availability of domestic savings (often generated by growth in cities) as long-term debt for urban infrastructure development. Factors that constrain supply include excessive borrowings by nations that has the effect of reducing the fiscal space for cities to borrow locally and invest in infrastructure.

## **4. RELEVANT FINDINGS, STRATEGIC OPTIONS FOR AfDB and U MDF, AND NEXT STEPS**

### **4.1 Relevant Findings for AfDB and U MDF**

The main findings from a review of international experience indicates that in both developed economies and developing economies:

- the leveraging of public finances with private debt is the dominant source of finance for municipal infrastructure as compared with other instruments.
- two pillars, namely OSR and fiscal transfers, generate revenue streams for improved borrowing capacity.
- Buoyant OSR and rational, predictable transfers are needed to estimate borrowing capacity and hence leverage.
- The rules for fiscal assignments and pledges, provisioning norms and security mechanisms, such as escrows provide the regulatory framework with private domestic capital to finance municipal infrastructure.
- larger cities have tended to finance their major investments through direct borrowing, while smaller cities have relied on pooling and intermediation, thereby reducing transaction costs and access challenges.
- pooling has been aided by credit enhancements such as debt service reserve funds and partial guarantees, but the underlying credits have rarely defaulted due to borrowing being restricted to debt service capabilities. There is also no cross-collateralization of risks, and hence no moral hazard problems.
- the access to capital has been designed by conscious national policy actions – the pooled finance in US, the banks in Europe etc. – and is often accompanied by concessional policy instruments such as tax advantages, interest subsidies for hardship communities etc.
- the Colombian, South African and the India experience indicate that successful leverage is dependent on national level actions to undertake reforms that empower local governments and free up municipal decision making.
- most countries have established technical assistance funds for supporting systemic reforms (such as billing systems, rationalization of IGFR) and the preparation of complex projects, especially those involving environmental impacts.

### **4.2 Strategic lending and technical assistance options for AfDB and U MDF**

In Africa, country-specific strategies are needed on account of systemic differences between francophone and other countries (Paulais 2014). For example, in many francophone countries (Tunisia, Senegal, Niger) centralized systems of financing capture revenue streams of cities upfront through intercepts of fiscal devolution, a situation markedly different in countries such as Kenya, Tanzania and Uganda. Further still, the regulations governing OSR vary significantly, in some countries, the valuations and rates need national government approvals such as Rwanda and Ghana, while in others (Ethiopia) taxation and billing systems are not in place.

A potential starting point for UMDf could be to develop broad typology that classifies countries based on a municipal finance assessment. This assessment could help identify within a country context the priority investments and TA that are needed. The assessment would cover (a) demand conditions -OSR/ IGFR, and (b) supply side conditions, such as intermediation and borrowing framework. The categorization allows the identification of potential lending operations from AFDB. Based on this initial assessment and after agreements with RMC, the UMDf could potentially identify some of the following for investment -linked reforms. Loan products and technical assistance products that could be considered based on the diagnostic typology are discussed below:

### **Loan Products**

For example, in countries where:

- (I) The devolution framework continues to be ad hoc and the supply of savings remains weak, the potential intervention would be to strengthen the IGFR through a counter-cyclical loan product to national governments. Further, from the perspective of leverage, it would assist the RMC in freeing up tied grants (either national or donor driven) as these constrain borrowing capacity.
- (II) Assisting intermediaries raises resources from domestic markets by instruments such as partial guarantees and first loss credit enhancements so that access to domestic capital improves. For example, nationally owned financial intermediaries are limited by access to capital, very often only donor finance (WRDC in Ethiopia). UMDf could assist in restructuring their balance sheets such that there is capital adequacy, performing loan assets, and earnings to support resource raising. Similar actions that enable financial institutions such as FEC in Morocco, and ADL in Senegal, would allow municipal infrastructure for smaller cities to be financed in a sustainable manner.

In countries where the demand-side factors are relatively developed, but supply-side factors limit debt, especially longer-term debt, potential supply side interventions include:

- (iii) Provision of instruments such as take out finance so that maturities can be lengthened, thereby encouraging local institutions to take credit risk so the AFDB capital crowds in domestic finance. For example, in countries where existing financial intermediaries do raise market finance, as with DBSA in South Africa, they offer products such as take out financing so that maturities can be stretched to finance long term assets.

Technical Assistance Products include:

- (i) TA to strengthen the OSR, in terms of valuations, billings and collection systems – using the TA facility, Revenue Enhancement Program of AFDB -SNG 2019, alongside an investment loan that allows taxes to be easily raised.
- (ii) TA to financial intermediaries and cities to undertake a financial assessment such as ratings, design default and no-default escrow mechanisms, develop asset recognition norms etc.

### 4.3 Next Steps for AFDB and U MDF

A limited survey of other MDB and bilateral operations in municipal finance suggests the relative comparative advantages for AFDB. For example, other MDBs are global, and work exclusively on the supply side (the IFC Sub National Fund has largely been supporting capital market operations of larger cities), and bilateral agencies have pre-selected geographies (such as AFD and DFID) and limited investment follow up in terms of longer-term debt finance.

The pricing of AfDB's loan product at the subnational level has to recognize the potential market-making nature of these loans. Apart from the public goods and the externality arguments, loans that crowd in domestic finance would need concessional terms to blend with market sources, both with reference to tenor and interest rates.

With the SUDAP and U MDF, the AFDB has the facilities and tools (and Africa focus) to work with RMC on reforms (using TA) and follow up with investments. Capacity building programmes that sometimes last decades often become irrelevant when there is no investment follow up. The Indian example shows the significance of learning by doing. Further "the lack of capacity" argument can become circular as it can never be verified (See also Sec 6, AFDB -SNG 2019). The SUDAP/U MDF can be used catalytically to enable a financing system that can finance projects, rather than scattered financing of individual projects that most donor finances end up doing (See 18-23, AFDB-SNG 2019).

Given the Addis resolve to strengthen local initiatives to finance local public goods, a useful starting point could be for development partners to assist national and city governments with the identification of a core basic agenda that improves leverage and promotes scale and sustainability. There is probably wide agreement on several propositions outlined in this paper; namely that leverage is necessary to create capital in cities, and, if municipalities are responsible to design, create and finance and pay for infrastructure there should be the corresponding powers. There is also perhaps consensus that since debt finance is needed, measures to strengthen municipal revenue streams are imperative. And on the supply side, the identification of sources of domestic finance and the design criteria for intermediation in terms of ownership, capital structure, security mechanisms and metrics for evaluating performance would need policy and investment actions. Given its position to offer both technical assistance and investments, there is clear opportunity for SUDAP/U MDF and the partnering RMC to move towards a new market that links domestic finance with municipal needs.

## 5. REFERENCES

African Development Bank, Strategy for Economic Governance in Africa 2021.

African Development Bank, African Infrastructure 2018.

African Development Bank, PIDA Closing the Infrastructure Gap in Africa 2019.

African Development Bank, Guidelines on Subnational Finance 2019.

Andersson, Lars 2014 Local Government Finance in Europe, MA Publications.

Nanez, Patricia 2006 -Urban Infrastructure Finance from Private Operators, World Bank Policy Research Working Paper 4045, November 2008.

\_\_\_\_\_ and Peterson, George, (2007). Financing Cities Sage Publications 2007.

\_\_\_\_\_ and Hue. G and Peterson G. (2008) Lessons for the Urban Century, World Bank.

Asian Development Bank (AFDB) (2012). Infrastructure for supporting inclusive growth and poverty reduction in Asia. Mandaluyong City, Philippines.

\_\_\_\_\_ (2012). Public-private partnership operational plan 2012-2020: realizing the vision for strategy 2020 – the transformational role of public-private partnerships in Asian Development Bank operations. Mandaluyong City, Philippines.

Belier, Michel and Maggie Zhou. 2003. "Private Participation in Infrastructure in China" World Bank Working Paper No. 3 March 2009.

Boix, Carles. 2005 "Privatization and Public Discontent in Latin America" Paper presented at the Conference on Joint World Bank Inter-American Development Bank Conference on "Diagnosis and Challenges in Infrastructure Economic in Latin America and the Caribbean" June 6-7, 2005.

Brookings 2015 "Global Economy and Development Finance".

Calderon, Cesar and Luis Seven. 2009. "The Effects of Infrastructure on Growth and Income Distribution", World Bank Policy Research Working Paper 3400.

Cities Alliance -Annual Reports 2005 Washington DC.

Durie, I., 2005. Municipal Finance: Innovative Resourcing for Municipal Infrastructure and Service Provision. Report prepared for the Commonwealth Local Government Forum.

Fahim, M., 2010. "Municipal Bonds Have Been Issued by US Local Government Since 1812." Available online at: <http://www.citymayors.com/finance/bonds.html>.

Garg, S. C., 2007. "Overview of Urban Infrastructure Finance in India." In G. E. Peterson and P. C. Nanez, eds., Financing Cities: Fiscal Responsibility and Urban Infrastructure in Brazil, China, India, Poland and South Africa, 108–57. New Delhi: Sage Publications and Washington, DC: World Bank.

Gorelick 2019. Supporting the Development of Municipal Bonds in Sub Saharan Africa, Environment and Urbanization 2019.

Government of India (GoI). 2009. Report of the Thirteenth Finance Commission (2010–2015). New Delhi.

-----Finance Commission of India. High Powered Expert Committee for Estimating the Investment Requirements for Urban Infrastructure Services (2011). *Report on Indian Urban Infrastructure and Services* (Delhi: Government of India).

-----Value Capture Finance Framework, Ministry of Urban Development 2017.

Ettinger, Stephen, Shelly Hahn, and Georgine Dellache. 2005. “Developing Country Investors and Operators in Infrastructure” PPIAF Phase 1 Report, Manuscript, March 2005.

Fay et al 2019 “Hitting a one trillion mark” WB Policy Research Paper 2019.

Fitch Ratings 2009 Infrastructure Financing in India: Lessons from the frontline.

FMDV; The Potential Catalytically Role of Sub National Pooled Finance Mechanisms, Paper Presented at Addis 2015.

Galiani, Sebastian, Paul Gertler, and Ernesto Schargrotsky. 2005. “Water for Life: The Impact of Privatization of Water Services on Child Mortality” *Journal of Political Economy* vol 113, No 1:83-120.

Haarmeyer, David and Ashoka Mody. 1998. “Tapping the Private Sector: Approaches to Managing Risk in Water and Sanitation” *Journal of Project Finance*. Summer 1998.

Hall, David. 1997. Public partnership and private control—ownership control and regulation in water concessions in Central Europe. Public Services International Research Unit PSIRU

Irwin, Timothy and Ehrhardt, David. 2004. “Avoiding Customer and Taxpayer Bailouts in Private Infrastructure Projects: Policy Toward Leverage, Risk Allocation and Bankruptcy”, *World Bank Policy Research Working Paper* 3274. April 2004.

IMF Transforming Development Finance, from Billions to Trillions, Development Committee of Fund and Bank.

Jehl, Douglas. 2003. “As Cities Move to Privatize Water, Atlanta Steps Back”. *New York Times*: 10 February, 2003.

Johnson, Brad, 2005, Pooled Financing in the United States, USAID.

Junash, Tooraj, Rafaella Mota, David Newbery, and Michael Pollitt. 2005. “Electricity Sector Reform in Developing Countries: A Survey of Empirical Evidence on Determinants and Performance”, *World Bank Policy Research Working Paper* 3549. March 2005.

Krishnaswamy Rajivan, 2013 Linking Cities with Finance, Presentation at Municipal Finance Conference in Rabat 2013.

Lehmann, S. (2005) ‘Towards a sustainable city centre: integrating ecologically sustainable development principles into urban renewal’, *Journal of Green Building*, 1(3): 83–104.



Lehmann, S. (2010) *The Principles of Green Urbanism: Transforming the City for Sustainability*, London: Earth scan.

Lewis, Blane (2017). "Local Government Form in Indonesia: Tax, Expenditure, and Efficiency Effects," *Studies in Comparative International Development*, DOI: 10.1007/s12116-017-9236-z.

Malathi S. *The Tamilnadu Experience World Urban Forum 2007*, published in UCLG Paper on Municipal Reforms 2012.

Mc Kinsey 2016 "Bridging the Global Infrastructure Gap".

Paulais, Thierry *Financing African Cities*, World Bank 2014.

PWC – 2018 Capital Project Infrastructure Spending, Oxford Economics.

Schwarz, Gerd. 2006. "Fiscal Space, Fiscal Risk, and Municipal Investments: Is PPI the Solution?" Presentation at World Bank, Urban Learning Week (March 22-23, 2006).

Streeter, William 2011, *The Quest for Sustainable Infrastructure Finance*.

Infrastructure Debt Adviser, Hastings Fund Management; Presented to the APEC Finance Minister's Process Workshop, Washington DC, June 22-23, 2011.

Water and Sanitation Program (WSP) Jan 2007 'Taking Water to the Urban Poor'.

United Nations, Addis Ababa Action Agenda, 2015, Addis Ababa Action Agenda of the Third International Conference on Financing for Development. Outcome document adopted at the Third International Conference on Financing for Development (Addis Ababa, Ethiopia, 13–16 July 2015).

United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (2011) *Are we Building Competitive and Liveable Cities? Guidelines for Developing Eco efficient and Socially Inclusive Infrastructure*, Bangkok: ESCAP.

United Nations Environment Programme (UNEP) (2013), *Municipal Decoupling: Urban Resource Flows and Governance of Infrastructure Transitions*, Geneva: UNEP. *to Think Urban*, Nairobi: (ed.) International Eco-Cities.

USAID 2005, *Introduction to Pooled Financing*, USAID, Infrastructure Reform and Finance Project.

World Bank. 2005. "Part III. Special Topic: PPPs—Fiscal Risks and Institutions". World Bank EU8 Quarterly Report, July 2005.

World Bank. 2019 *Beyond the Gap*, Policy Note 1/6 edited by Rosenberg and Fay.

Washington Centre for Equitable Growth, 2015, *What Do We Know About Economic Inequality and Growth*. Fact Sheet July 2015.

WEF 2019 *Bridging the Infrastructure Gap*.

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