

## ADB Sustainable Development Working Paper Series



### Subnational Finance for Infrastructure: Potential Roles and Opportunities for ADB

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Priyanka Sood, Marshall M. Mays, and Michael R. Lindfield

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# Abstract

As national governments of ADB's developing member countries (DMCs) divest their service provision responsibilities at the subnational level, local governments and their entities are becoming increasingly central to the provision of urban infrastructure. Furthermore, as they seek to improve their own fiscal standings, national governments are also requesting development agencies for support directly at the subnational level, including lending to subnationals without sovereign guarantees. Current mechanisms for financing urban infrastructure in DMCs rely heavily on the often financially weak public sector with the result that governments' fiscal positions become the limiting factor in what can get built and be provided. In order to sustainably finance infrastructure and services, the public sector must still improve its fiscal position, but it must also be more effective in using its relatively scarce budget to leverage more private sector financing, including via capital markets. Experience has shown that strong fiscal positions of subnational governments, prudent financial management, transparency and good governance, strong legal and regulatory frameworks that support the right incentives and market structures, and municipal service companies that operate as financially viable enterprise businesses on the basis of fully accounted for costs, predictable tariff frameworks and strictly enforced performance standards, are key to sustainably financing and providing urban infrastructure and services. This study examines ways to move beyond these commonly observed constraints in the varied subnational circumstances of ADB's DMCs, and proposes areas for ADB technical and financial intervention to support sustainable infrastructure financing at the subnational level.

# Abbreviations

ADB	Asian Development Bank
AfD	Agence Française de Développement
CNG	Compressed Natural Gas
CRA	Credit Rating Agency
DMC	Developing Member Country
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EIB	European Investment Bank
EUR	Euro
GDP	Gross Domestic Product
GFI	Government Finance Institution
IADB	Inter-American Development Bank
IFC	International Finance Corporation
JNNURM	Jawaharlal Nehru Urban Renewal Mission
KfW	Kreditanstalt für Wiederaufbau
KICGF	Korea Infrastructure Credit Guarantee Fund
LGUGC	Local Government Unit Guarantee Corporation
MDF	Municipal Development Fund
NSP	Non-sovereign Public
ODA	Official Development Assistance
PFDf	Pooled Finance Development Fund
PPP	Public–Private Partnership
PSOD	Private Sector Operations Department
PWRF	Philippine Water Revolving Fund
RDA	Regional Development Account
SOE	State-Owned Enterprise
SPV	Special Purpose Vehicle
TA	technical assistance
USAID	United States Agency for International Development
VAT	Value Added Tax



# Glossary

Central model	The central government uses its own institutions to facilitate credit flows, redistribute tax revenues, collect tariffs and, usually, to administer the associated fiscal operations. Infrastructure services are usually managed from within central government departments, either directly or via local (municipal) administrative-support units.
Confederal model	The central government acts more like a private-sector service provider, allocating central revenues or guarantee support on a contractual basis and on fairly commercial terms, while concentrating its effort on regulation—rather than operation of infrastructure.
Contractual conventions	Within any political (geographic) jurisdiction a pattern of rules, laws and habits dictate the way contracts are drawn up between commercial parties or the sponsor and multiple counterparts. These conventions, once stable, serve to increase certainty of outcome in both the formation of the contract and the delivery of its subject goods or services.
Credit enhancement	The use of guarantees, intercepts, reserves and other means may reduce the investor's valuation of various risks associated with the infrastructure and, thus, reduce the cost of credit paid to investors.
Facilitative institution	A public or private entity may help a municipality gain access to financing by training and supervising its staff, or taking on part of its credit risk (by applying its own guarantee on such debt or equity), or it may lend money directly to the municipality or its agents to create and operate the infrastructure, then refinance its debt and equity with other governments or market entities.
Federal model	The central government has devolved some of its taxation powers and administrative authority. It uses corporatized government departments to operate infrastructure and offers “window service” (i.e., standards-based, semi-automatic) refinancing facilities that do not require its own direct administration.
Fiduciary Manager	The guardian of the infrastructure asset and its associated service as public goods. Protecting the quality of service requires monitoring the provision of service, its everyday use and associated costs and risks in order to improve performance.
Financial mechanism	An institution or established practice or set of rules—such as a public or private agency, cooperative, a special-purpose bank or fund, a specialized contract for development or administration—that facilitates or channels funds to investments and serves the investors' and other stakeholders.'

Fiscal administrator	Usually a public agency or department collects tax receipts allocated to the infrastructure from various tax divisions and may draw tariff revenue from the Service Provider, if the latter is not a private or corporatized entity with complete fiscal powers. In the latter case, the administrator may not provide any funds to the Service Provider to defray its expenses (although subsidies are commonly provided this way) and concentrates on financing the planning and design phases.
Infrastructure developer	The (usually corporate) entity that creates the infrastructure asset may be in the public or private sector. Its primary jobs are design and construction, but it must procure the authority and funding to do so. Sometimes it retains ownership of the infrastructure, leasing it to the Service Provider, with whom it may have a relationship.
Infrastructure service provider	The operator of the infrastructure asset may or may not own it but is primarily responsible for the provision of services and maintenance of its facilities, whether on a monopolistic-utility or competitive-service basis.
Investment channel	A refinancing entity or a network of investment institutions that provide services to borrowers or equity issuers provides a channel to the banking or capital markets.
Project sponsor	The (usually political) entity who draws up the mandate to create and operate infrastructure services has either the political authority to finance and manage the services or the administrative capacity to arrange for that authority and management.
Risk pricing	Each kind of credit, market and political risk has its own inherent probability and magnitude. Investors accepting such risk decide what reward they expect to receive that will be, in their eyes, commensurate with such risks. The pricing of that risk may take the form of price discounts, interest-rate levels or dividends and fees.
Self-dissolving	Subsidies that offer the beneficiaries (and providers) with both positive and subsidies negative incentives over time to reduce reliance upon them may use contractual restrictions or create alternative opportunities that induce a change of behavior between the parties to the subsidy. Such a subsidy tries to improve capacity in its beneficiary or environment or reduce problems that prompt its use.
SOE	State-owned enterprises are companies where the state has a majority or controlling stake in the firm's equity and may be active in supervising its management and resource use.
Window service	Semi-automatic processing of applications, based on a clearly defined set of standards. If documented proof of compliance with those standards is supplied with the application, it will be approved. This format is intended to eliminate arbitrary decision-making and to prevent administrative delays—both methods of extracting “facilitation” payments and instigation of other forms of corruption.



# I. Introduction

1. Asia's cities have become the key drivers of economic growth and the resultant gains in poverty reduction. They are highly productive, with 42% of the population living in urban areas contributing 80% of the region's gross domestic product (GDP).<sup>1</sup> The region's second-tier/intermediate cities are also rapidly urbanizing now. However, few cities in Asia were designed for the scale and pace of urbanization they are witnessing. Populations are ballooning and even mid-sized cities have outgrown their historic jurisdictions to expand into surrounding local governments. The institutional and financial capacity of cities to manage this urban expansion is falling behind and vital infrastructure and services are at risk. These growing gaps between the supply and demand for infrastructure are becoming major constraints to the ability of cities to sustain, deepen and expand economic growth.

2. Estimates vary, but several hundred billion dollars a year worth of new urban infrastructure will be needed to fill prior gaps and keep pace with the unprecedented urban growth in Asia.<sup>2</sup> Over the ten-year period from 2010–2020, the 32 developing member countries (DMCs) of ADB require financing of \$747 billion annually to meet the growing demand for energy, transport, telecommunications, water, and sanitation. Around 68% of this is needed for new capacity investments in infrastructure and around 32% is needed for maintenance or replacement of existing assets. The total investments required to meet demand for regional infrastructure is valued at approximately \$320 billion, with an average infrastructure investment need of about \$29 billion per year for the period 2010–2020.

3. Funding for urban infrastructure remains inadequate in all but the wealthiest cities of ADB's DMCs today. There remain many viable projects in each country and city which budget and borrowing capacity cannot cover, regardless of the prevailing legal, political or economic structure. In most of these DMCs there are significant savings within the economy that could, in principle, be mobilized to meet this infrastructure demand. The private sector's participation will be needed, not as a replacement for public capital but given the scale of investment requirements. However, involving the private sector does not mean governments' fiscal positions are irrelevant. As many cities in the US and Europe are now discovering, failing to improve fiscal positions itself limits the capacity to engage the private sector. Serious decentralization efforts have been made across DMCs, but in most of them subnational governments and their entities lack sufficient resources and capacity to deliver the growing quantum of services for which they are accountable. There exists substantial scope for better utilization of currently under-utilized own sources of revenue such as property tax. Much can also be done through more efficient revenue collection, systems consolidation and improvements in the way central transfers are disbursed. Progress has been made in opening up infrastructure finance to the bond and equity markets, however, capital market support for infrastructure remains limited. This keeps most of the burden on banks whose deposit funds are not well matched with the maturities required by infrastructure.

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<sup>1</sup> UN-HABITAT. 2010. *The State of Asian Cities 2010/11*. Fukuoka.

<sup>2</sup> ADBI. 2009. *Infrastructure for a Seamless Asia*. Tokyo. The report estimates that the unfilled infrastructure needs of Asia that grew in the wake of the 1997–1998 financial crisis and have increased rapidly with Asia's urban migration and rising middle class. Its estimate of \$750 billion a year for 2010–2020 exceeds others by several multiples but agrees with some other estimates that over half of the need is for municipal infrastructure. Sector wise, of the total investment, approximately 49% is estimated to be needed for energy infrastructure, 35% for transport, 13% for ITC, and 3% for water and sanitation. Overall, the top 11 countries constitute 97% of Asia's total infrastructure investment needs, most of which are in Southeast Asia and South Asia. By sub-region, the biggest investment needs are in East and Southeast Asia at \$5.47 trillion, or 67% of the total, and South Asia at \$2.37 trillion, or 29% of the total. This can be explained by the fact that the biggest economies in Asia—PRC and India—are located in these sub-regions.

4. Subnational sponsors of infrastructure and services are emerging as potential major clients, analogous to the situation in Eastern Europe two decades ago, with ADB capable of leading its DMC governments and their market participants to close the huge infrastructure and capacity gap at the subnational level. This paper makes an evidence-based case for ADB support to subnational financing in DMCs. It draws on the emerging fiscal structures and expressed needs of subnationals,<sup>3</sup> initiatives being supported by sovereign governments, other multilateral and bilateral agencies and appropriately modified experiences of developed countries. In proposing possible ADB interventions, this paper acknowledges that there is a variety of subnational circumstances in the client countries of the region and that each reflects different degrees of evolved effectiveness in their respective political context, financial administration rules, institutional capacity, legal and regulatory frameworks, incentives and market structures. That is, the market for proposed interventions is highly differentiated and hence, each country will need a response that is tailored to its specific circumstances. The interventions are likely to range from awareness-building, building capacity in financial and risk management, improving governance and transparency to enhance creditworthiness; to pilot initiatives for improving incentives and domestic market structures to support subnational access to credit markets using innovative local currency financing, risk sharing, credit enhancement and guarantee support.

5. The bottom line is that, taken together, such actions can build a strong financial and fiscal base, improve performance and lower costs, impacting the access, affordability and efficiency of infrastructure services, particularly to poor households, and making room for commercially priced finance to support a larger share of urban infrastructure projects. Given the sound base, the facilitative, risk mitigating, credit enhancing mechanisms, such as those presented in the paper, can help subnational local governments and their entities be more efficient and imaginative in leveraging their limited own resources, instill confidence in the market about the creditworthiness of subnationals, and encourage private sector and commercial finance participation in infrastructure on the strength of that confidence. It is also important to emphasize a role for private sector capital—envisaged not as a replacement for, but as a complement to, public capital.

## **II. Rationale for Interventions to Support Subnational Infrastructure Finance in DMCs**

6. The rationale for interventions to support subnational infrastructure finance in DMCs stems from the reality that responsibilities for service delivery are being devolved to local governments and, given limited public resources, there is increasing pressure to make governments at all levels more accountable and more in-step with the demands of the marketplace. “The sensitivity to market behavior in the face of limited resources includes the drive to make more activities self-supporting, to curtail the provision of free service, and to shed activities that commercial enterprise can provide better and faster.”<sup>4</sup> Overall, (i) as more and more DMCs divest their responsibilities at the subnational level, local governments and their entities, including public utilities, are becoming central to the provision of urban infrastructure; and (ii) the governance, accountability and financial management of subnational governments’; the efficiency of municipal service provision companies and the legal and regulatory frameworks

<sup>3</sup> As they seek to improve their own fiscal positions, DMC national governments are increasingly asking multilateral lending institutions to provide financing to subnationals without sovereign guarantees.

<sup>4</sup> ADB. 2007. *Market Survey of Subnational Finance in Asia and the Pacific*. Manila.

that support stronger subnational finance and consequently, private sector and capital market participation in subnational infrastructure, are becoming critical to financing urban infrastructure. Against this backdrop, DMC governments are themselves expanding the range of conduits through which they support urban infrastructure. It is essential that ADB's interventions also be varied accordingly, so that its support is better aligned to the expressed needs and different circumstances of subnationals in the region.

7. Lessons from implementing ADB's non-sovereign public sector financing pilot (NSP)<sup>5</sup> and from other organizations that have lent to or supported subnationals, their companies and/or State-Owned Enterprises (SOEs) for extended periods of time, also help make the case for subnational financing. Assessment of the NSP pilot has concluded that, "overall, the potential development value of NSP transactions—particularly in aspects relating to improving policy, legal, and regulatory frameworks; improving corporate and municipal governance; developing capacity; and promoting the adoption of fiscal and commercial discipline and responsibilities at subnational levels—would outweigh the costs associated with increased risk and oversight requirements, particularly in view of the fact that a number of these systems (e.g., processes, risk management) are already in place for other non-sovereign operations. Some corrective measures at processing and organizational levels will however be needed to improve NSP performance."<sup>6</sup>

8. Experience has shown that financing infrastructure at the subnational level requires transparent governance, financial management, and technical and institutional capabilities. Where not already in place, which is the case with most DMCs, supporting interventions are required. It is this large potential demand that the proposed interventions are targeting.<sup>7</sup> There is a range of such interventions and mechanisms that have proven effective in richer economies over the years—from building governments' capacity for financial management and improving public finances; improving the operational efficiency of public service utilities (affecting tariffs, and hence, revenues); facilitative institutions (usually agencies, service centers or cooperatives) to investment channels (special-purpose banks or funds) to contractual conventions among different levels of government. One can draw useful lessons from these examples in deciding how to improve investment finance, bearing in mind the context in which they were developed in doing so. An assessment of the political and financing context, current nature of financing, current capacities of subnational entities and key elements of the infrastructure finance market provides the framework within which opportunities for ADB interventions will be proposed.

### III. Subnational Infrastructure Finance in DMCs

#### A. Local Political and Financing Context

9. Reviewing the main features of the infrastructure finance market in high-income countries, one may derive main typologies or models reflecting primarily the degree of political concentration. Using the terms confederal, federal and central, Figure 1 illustrates the political and financing context for subnational financing prevalent in ADB's DMCs. Specifically, Figure 1

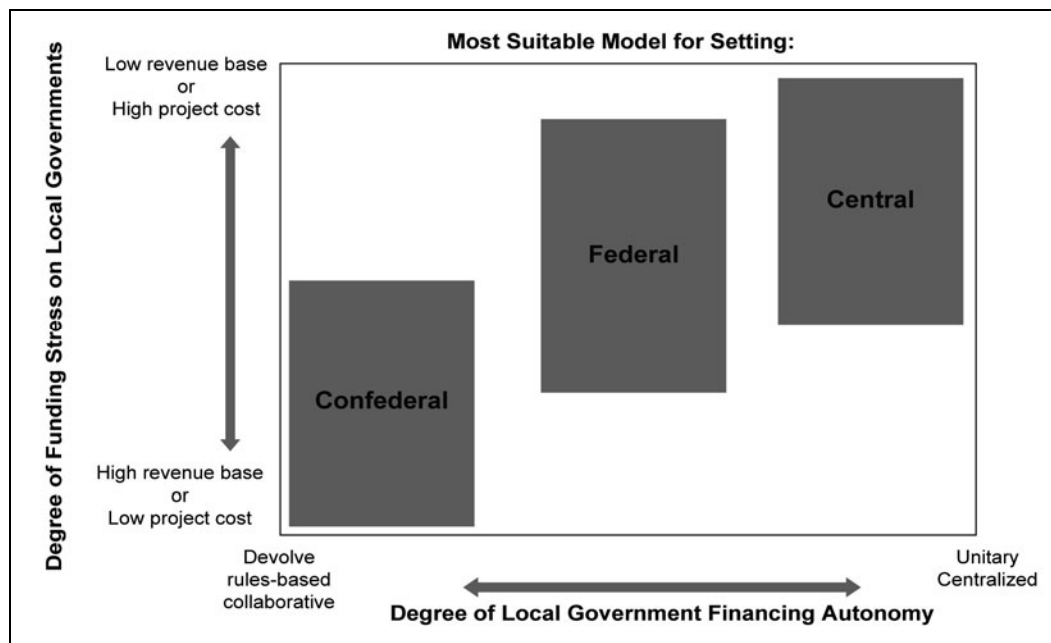
<sup>5</sup> As part of its Innovation and Efficiency Initiative (IEI), in August 2005 ADB approved five new financing instruments on a pilot basis. Since then, the Multitranches financing facility, local currency financing for the public sector and financing syndications, and risk-sharing instruments have been mainstreamed into ADB operations, whereas the refinancing modality was discontinued due to lack of demand. The non-sovereign public sector financing pilot was approved in August 2005 and extended for three years up to August 2011.

<sup>6</sup> ADB. 2011. *Mainstreaming Non-sovereign Public Sector Financing*. Manila.

<sup>7</sup> The interventions are also being targeted to "convert" as much of the potential demand as possible into effective demand.

compares the degree of funding stress on local government i.e., project investment demand versus local resources on the Y axis, against the degree of local financial autonomy, i.e., administrative concentration and taxation power held by the national government on the X axis. In general, and as can be expected, the less funding autonomy and revenue base of local government, the more centralized the infrastructure provision and financing structures.

**Figure 1: Political and Financing Context for Subnational Infrastructure Finance**



10. In the centralized setup, the central government has traditionally taken the lead in subnational finance, using its own institutions, or those under its control, to facilitate credit flows, redistribute tax revenues, collect tariffs and sometimes administer operations. An advantage of this approach is its potential coherence across agencies and relatively rapid response to economic circumstances (as in the effectiveness of infrastructure as a stimulus in a financial crisis). However, the model can be susceptible to arbitrariness and policy risk from the investor's perspective, and rich countries following this model have generally moved to devolve some power from the center to provincial or local governments, adopting mechanisms of the Federal model. **The People's Republic of China, Thailand, Indonesia, and Malaysia are the most representative of this political and financing context among ADB's DMCs.**

11. The federal setup is seen in economies where subnational states (provinces) and sometimes cities are financially powerful. Their fiscal mandates (local fund-raising capacity) gives them substantial independence of the central government's policies. While only larger local governments have enough administrative and financial capacity to undertake infrastructure planning, financing and implementation on a large scale, they have lobbied for, and provide examples of, a more devolved approach. Increasing use of corporatized government departments to operate infrastructure and "window service" (i.e., standards-based, with autonomous management) refinancing facilities that require less central-government direct administration are becoming the trend. **This political and financing context among ADB's DMCs is being seen in India and the Philippines. Among the higher income countries of Asia, it is being seen in the Republic of Korea.**

12. The confederal setup is still not common in Asia, but it is forming in economies that are large enough or spread out enough to have significantly different subnational economies within them. Here, the central government is beginning to act more like a private-sector service provider, allocating central revenues or guarantee support on a contractual basis and on standardized, commercially structured (if subsidized) terms. More restricted use of this principle is seen in the US where access to tax-advantaged municipal bonds, subscribed by a broad spectrum of institutional and retail investors, depends on credit rating. **Elements of such a setup are being seen in India and the Philippines.**

13. Decentralization has been underway in most of the post-communist bloc countries with subnational governments being given constitutional powers for administration and finance.<sup>8</sup> However, in most cases subnational autonomy is limited because of the weak management capacities and financial resources of these entities, and they continue to be highly dependent on central governments. Infrastructure and services in these countries were provided by government owned municipal enterprises. The transfer of responsibilities to subnational governments, in some cases, led to over fragmentation of infrastructure services such as water and sanitation, resulting in inefficient scale of operations and difficulties in accessing finance. Some countries have, therefore, sought to re-aggregate these services for scale efficiencies and to attract private sector participation. **The central and west Asian DMCs would largely be characterized as having a centralized setup.**

14. Overall, ADB's DMCs tend to be more centrally organized than many of the developed economies. However, most of them are to some degree in transition to a more devolved and collaborative relationship between central and municipal government. The corresponding shift to a rules-based environment is happening, but more slowly, creating some difficulties for efficient financing of infrastructure at the subnational level. Annex 1 provides a typology of urban finance systems across countries in the region.

## **B. Current Nature of Financing**

15. Until the changes over the past two decades, most governments delivered the major share of public infrastructure services through national- or local government-owned enterprises, governed mostly through inefficient political, administrative and fiscal systems. The results were often disappointing because inefficient public sector monopolies failed to provide the quality and quantity of service needed, undermining public sector accountability. In general, these publicly owned utilities neither expanded services sufficiently to meet a growing demand nor provided adequate coverage to poor and rural areas. Even after the changes of the last two decades, evidence indicates that most investment in infrastructure continues to be funded by the public sector, which accounts for about 70% of the total share. The share of private finance has been 20%–25% and official development assistance, 5%–10%. The capacity of these public utilities to efficiently finance their infrastructure expansion programs is, therefore, essential to sustainable service provision.

16. Considerable responsibility for infrastructure service provision has been devolved to subnational governments and their entities but this has often been done without corresponding

<sup>8</sup> For example, Georgia's organic Law on Local Self-Government and Local Government (1997); Armenia's Law on Local Self-Government (1996), Law on Elections to Local Self-Government Bodies (1996), and Law on Local Self-Government (2002); Tajikistan's Law on Local Public Administration and Law on Local Self-Governance in Towns and Villages; and Kazakhstan's Decree #713, October 2001, on the 'Government Commission on power distribution among government levels and improvement of inter-budgetary relations' and the Decree of February 2003, on the 'Conception of power distribution among government levels and improvement of inter-budgetary relations' leading to local governments receiving increased responsibilities in the health care and education sectors. National debates on decentralization are ongoing.



decentralization of finances. The cash raised by local governments from their own revenue sources is insufficient to support the provision of these services—these revenue shortfalls (taxes and user charges) coupled with mismanagement of finances are the core of the problem. There is also the systemic issue of fiscal decentralization being only in name with some taxes collected at the local level going back to higher levels of government for re-distribution. A number of cities in Asia have borrowed, but such government borrowing, too, is limited and often restricted to medium-term loans for projects that have a guaranteed revenue source, such as transport terminals, slaughterhouses, and markets. Borrowing often is for short-term, cash-flow support, overdraft credit or for a medium term, around 5 years. Furthermore, borrowing from local banks is largely restricted to those that are government owned. Very little long-term lending, 15–20 years required for infrastructure, has occurred, apart from that associated with multilateral bank-assisted projects often on lent by municipal development funds. In a few cases, municipal bonds have been floated. In cases where utilities are run by city administrations, additional resources have been raised from user charges.

17. Overall, much of the investment for urban infrastructure has been provided through grant or loan financing from central governments, some with help from international financial institutions, through ad hoc revenue sources (such as land transfer taxes in China), or both. With the high degree of dependence on grants from higher levels of government, local governments are not inclined to put together comprehensive business plans. The result has been postponement of borrowing programs and private sector's perceived high risks of financing urban infrastructure. Even if they are on a sound fiscal base, most subnational governments have limited access to capital markets and private sector finance for their infrastructure projects.

### **C. Elements of the Infrastructure Finance Market**

#### **(i) Capacity for Structuring Finance**

18. If local governments are to take on more responsibility for financing infrastructure, they must have both the mandate and capacity to generate local revenue but both are lacking. Despite decentralization, there are considerable constraints on local governments in DMCs in raising local revenue for financing infrastructure. Due to poor financial administrative capacity, many are inefficient at mobilizing<sup>9</sup> and efficiently using their own and supplementary resources. In addition, most local revenues are used for the operations of city governments with very little allocated for capital investment. Even though local governments often have significant land and property holdings, their knowledge of and control over them is poor, so this first source of own revenue is generally small in most DMCs. Additionally, most central governments either prohibit or limit the authority of local governments to tax wealth and income, although sales taxes in some developed countries can be an important local government source. While a proportion of own source revenues can be set aside for capital development expenditures, in practice most is funded through central grant transfers.<sup>10</sup> Such funding, however, is dependent upon the central government's commitment, which can be made based on formulas, agency priorities, or political expediency.

<sup>9</sup> Local governments have five basic sources of revenue: (i) those from publicly owned assets, including land, or shares of central government taxes on natural resources; (ii) taxing private wealth, including property; (iii) taxing income or its use, including earnings, consumption, and business turnover; (iv) user charges or licenses on services provided and utilities consumed; and (v) fiscal transfers, including grants and other assistance from central or provincial governments.

<sup>10</sup> Fiscal transfers generally make up more than 50% of local government revenues, and in some countries such as Pakistan, they can reach as high as 95%.

19. For cities to raise more funds themselves, additional sources of both revenue and borrowing are required. The former will be limited unless local governments efficiently tap into existing tax bases, operate utilities on sound financial and service principles to allow for levy of appropriate user charges and central governments allow local governments to retain and use most of what is collected locally. This requires the building up of significant financial administrative capacity. The latter (borrowing avenues) will be limited unless the former are improved. Limited financial management capacity is, again, a major bottleneck to credit access. It can be argued that much can be done through more efficient revenue collection, systems consolidation, improvements in the way central transfers are disbursed and resource utilization. However, even these improvements often do not close the gap for infrastructure funding since the revenue increases are small relative to the capital investments required. Perhaps there is a case for more central government support, but the reality is that funds at national level are also insufficient to provide for the investment financing needs of Asia's rapidly urbanizing cities. Hence, the need for the public sector to be more efficient in using its relatively scarce resources.

(ii) *Private Participation in Financing*

20. Governments are providing various forms of support to encourage private participation in urban infrastructure. Private sector participation has been enabling the development of infrastructure projects and helping governments access financing to implement these projects. Contributing. According to the World Bank and the Public–Private Infrastructure Advisory Facility (PPIAF), the investment commitments to infrastructure projects with private participation has risen from \$21 billion in 1990 to \$150 billion in 2008 in developing countries. However, despite the diverse modes of government support, and even with those modes operating at full efficiency, there is a dearth of long-term debt financing that is required for infrastructure development. There is a growing recognition that mobilizing private finance, particularly from local sources, is required on a large scale to augment current efforts of government and international funding agencies in financing sustainable infrastructure at the local and regional level. This includes accessing capital markets given the large savings surplus in most DMCs. However, as mentioned earlier, involving the private sector does not mean governments' fiscal positions are irrelevant—failing to improve fiscal positions itself limits the capacity to engage the private sector.

(iii) *Legal and Regulatory Framework, Including Arbitration Mechanisms*

21. The first criterion to greater local autonomy and devolution of power from the central government is a clear set of rules that are enforced reliably. The other is that the legal provisions and the regulatory framework governing private sector participation via public–private partnerships on the one hand and the authorization, treatment, and use of debt on the other, are in place. The problem is less in the legal framework and more in the poor enforceability of rules, contract awards, weak or inconsistent institutions of arbitration and non-transparent judicial proceedings. Infrastructure investment, particularly at the subnational level, has an additional handicap in that, the laws dealing with private participation and capital market access are not well developed in many DMCs. Most city administrations are not familiar with the laws pertaining to the management of operations involving the private sector and capital market access. Ignorance of the law and its institutions has the same effect as if they did not exist. This information problem puts the onus on the private sector to perform ground up research and to educate its potential client-partners—a significant barrier to project development and financing.

(v) *Breadth of Financial Institution Participation*

22. Private finance for infrastructure can be raised from banking as well as capital markets. Both operate within the constraints of fiscal, monetary, and competition policies of national governments. In theory, the availability of private funds is not a problem but using such resources to finance urban infrastructure is. Capital markets in Asian economies have shown expansion comparable with their growth. Today, Asian capital markets are generally flush with savings and are linked to international capital markets.<sup>11</sup> Money, therefore, is plentiful in pension, insurance, and mutual funds in Asia, but finding safe investment opportunities is a problem. Pension funds and life insurance companies are unable to find the major long-term investment opportunities they need to avoid maturity mismatches. Bond markets are dominated by national government debt. The lack of alternative long-term debt not only impairs the development of capital markets but also constrains the financing of city infrastructure. Institutional investors will have to play an expanding role in the financing of infrastructure and capital market development. Given that funds for investment are plentiful, it is the instruments, mechanisms, institutions and projects that will have to be developed to provide sufficiently attractive terms and security to institutional as well as retail investors to invest in urban infrastructure and city development. Creating an active secondary market for municipal debt/bonds will also be a worthwhile agenda, particularly in countries where municipal bonds are being issued and the reforms on the debt side of markets are already underway. Annex 2 shows the main features of the three different enabling frameworks, discussed in section A above, within which the financial elements of an infrastructure finance market operate.

## IV. Progress on Elements of Subnational Infrastructure Finance

### A. Municipal Development Entities/Facilitative Mechanisms

23. During the early 1980s, independent or quasi-public institutions were established to channel borrowed and grant funds to local governments for local infrastructure development. Among ADB's DMCs, these municipal development funds (MDFs) have been set up in the Philippines, Thailand, Indonesia, and India. The objectives of MDFs were to reduce political interference in project selection and financing, provide a more responsive administration, finance economically and financially viable projects, and lend at market rates. The longer-term objective was usually for these institutions to access private sector savings and become intermediaries between private capital markets and local governments.

24. The MDF is similar in concept to bond banks, since they are also intermediate, bridging financial channels. In countries like Germany, with KfW, they serve as a bridging, supportive institution between external funding and municipal governments as infrastructure sponsors, placed to provide scale benefits and a reduction in information cost to investors. However, MDFs are also innovations over the bond bank structure and deal with many more forms of finance than debt and often provide a wide range of monitoring, capacity building and credit enhancing functions. Several smaller states in the US developed bond banks first as refinancing mechanisms for their small towns' projects and later added capacity building mechanisms. If the

<sup>11</sup> The total domestic financing, comprising domestic credit of the banking sector, outstanding local currency bonds, and total equity outstanding in the major markets of East Asia is estimated to be some \$29.4 trillion as of end of 2005. The local currency bond market comprises \$7.4 trillion or 36% of this total.

infrastructure funding need under their administration is large enough, and if bonds are being issued to raise debt, MDFs can become repetitive issuers of a single type of bond. This regular supply and standardized form further help investor information needs, creating more reliable demand for the bonds and more trading in them among investors. Such trading, itself, creates a public good in the form of risk pricing. The most successful version of the mechanism is the covered bond, issued by specially licensed banks.<sup>12</sup>

25. In 1988, the World Bank-funded Tamil Nadu Urban Development Project set up the Municipal Urban Development Fund (MUDF)—a loan and grant program to fund urban infrastructure. By October 1996, the government-owned MUDF had financed over 500 subprojects in 90 out of 110 municipalities in Tamil Nadu. Given its successful track record of on-lending and loan recovery from local bodies, in 1996 the MUDF was converted into a new financially and legally autonomous financial intermediary—the Tamil Nadu Urban Development Fund (TNUDF)—with participation of private capital in the unit capital of the fund (albeit marginal, at 4%) and management.<sup>13</sup> This has brought private-sector management expertise to the selection and financing of subprojects sponsored by either public or private agencies and to facilitate creditworthy municipalities' access to the capital market. An asset management company—Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) which is a joint venture between the state government and private sector—is the Fund Manager of TNUDF. A separate grant window for poverty-oriented investments, such as slum upgrading and cost of resettlement, is also being handled by the asset management company and provides technical assistance to municipalities in preparing such investments and improving their own financial management. The scale of loans disbursed by TNUDF remains small.<sup>14</sup> Municipal Development Funds are also operational in the states of Karnataka and Andhra Pradesh.

26. The most recent addition to the list is the Orissa Urban Infrastructure Development and Finance Corporation Limited (OUIDFCL) to finance infrastructure projects of different urban local bodies. The corporation is being set up with seed funding from the German government-owned development bank KfW. The loan has not yet been signed but is likely to be a EUR 50 million soft loan with a 15 year payback period and 5 year moratorium, plus a grant of EUR 2.5 million for capacity building. OUIDFCL will consist of the Orissa Urban Infrastructure Development Fund and an Asset Management Company. Funds would be available to ULBs for infrastructure projects which would be economically remunerative and recovering at least operation and maintenance costs. Projects, however, will be hypothecated to the company. The new corporation would basically help prepare, formulate and implement projects.

27. Municipal Development Funds have been effective disbursement agencies for international funding agencies and they may have increased the quality of project assessments and fund allocation. But the broader objectives of accessing private capital markets, extending operations beyond specific project financing, and becoming financially sustainable entities

<sup>12</sup> Covered bonds or pledged notes (Pfandbriefe) began to be issued by a few state banks under specific regulation that included rules on asset quality, over-collateralization minima, ring-fencing of the housing loans pledged to the notes, right of recourse by the note-holders to the issuing bank, plus the trustee agent, as protector of the "cover" registry of pledged loans.

<sup>13</sup> TNUDF was formed by conversion of Municipal Urban Development Fund (MUDF), with contribution from Government of Tamil Nadu along with all India financial institutions viz., ICICI Bank Limited (formerly ICICI Ltd.), Housing Development Finance Corporation Limited and Infrastructure Leasing and Financial Services Limited. TNUDF is the first public-private partnership providing long term debt for civic infrastructure on a non-guarantee mode. TNUDF is managed by a Corporate Trustee viz., Tamil Nadu Urban Infrastructure Trustee Company Limited (TNUITCL). The Board of Trustees periodically reviews the lending policies and procedures.

<sup>14</sup> Audited reports of the company show that in 2009-10 there has been some improvement in loan disbursements. The disbursement was about INR 88 Cr or less till 2009, and INR 151 Cr in 2010. These numbers give some idea of the scale, which is fairly small. (In 2001, the disbursement was INR 219 crores, and fell to 2 crores in 2003).

without infusions of new public capital, have not generally been achieved. Success—in terms of expanding the role of such organizations—has ranged from rejecting additional funding outright and more stringent financing terms in the case of the Thai MDF to the rather lukewarm reception of the Regional Development Account (RDA) in Indonesia. Some, like the TNUDF have become part of a transition process toward developing more specialized local government financial intermediaries, even using innovations like pooled bonds, credit enhancement structures and refinancing to finance urban infrastructure.

28. The MDF mechanism continues to evolve, such as the variation that is gradually proliferating in Viet Nam—the local development investment fund, represented by the Ho Chi Minh City Investment Fund for Urban Development (HIFU). Ho Chi Minh City Investment Fund for Urban Development (HIFU) was a pilot local development investment fund that was founded in 1996 as a state-owned financial institution to mobilize capital efficiently for socio-economic infrastructure. The main activities of the Fund are direct investment (establishing and/or jointly managing joint stock companies in infrastructure finance under specified criteria), credit financing (using HIFU's capital or syndicated loans with other financial institutions) and trust fund management (receiving and disbursing funds received from abroad and domestically). In addition, HIFU has also been authorized to issue and undertake repayment of municipal bonds for Ho Chi Minh City government.<sup>15</sup> To attract private participation in the infrastructure investment, HIFU's investment is capped at 20% of total loans or equity, respectively. By the end of 2009, HIFU had contributed equity to over 20 companies worth \$74 million. Its funding sources vary from municipal bond issuance to grants, loans from donors, and the government's budget. Annex 3 details the example of the MDF-like enabling mechanism being used in the region in Viet Nam.

## **B. Incentive Structures**

### *(i) Risk Mitigation and Credit Enhancement Mechanisms*

29. A more common version of facilitative institutions for subnational infrastructure finance is the guarantee agency, two variations of which are the Republic of Korea's Infrastructure Credit Guarantee Fund (KICGF) and Indonesia's Infrastructure Guarantee Fund (IIGF). Several countries have set up innovative local credit enhancement entities and techniques to help mobilize domestic commercial debt for subnational infrastructure finance. The objective has been to mitigate borrower credit risk and market or liquidity risk commonly seen in subnational lending in DMCs.

30. The Philippines' Local Government Unit Guarantee Corporation (LGUGC) is an indigenously formed company that guarantees loans or bonds issued by local government units (LGUs) to finance revenue-generating projects. It was incorporated on 2 March 1998. LGUGC is owned by a consortium led by the Development Bank of the Philippines (DBP) and the Bankers Association of the Philippines (BAP) and is under the supervision of Bangko Sentral ng Pilipinas (BSP). ADB has a 25% ownership in LGUGC. LGUGC credit guarantee serves to protect private financial institutions (PFIs) and other investors in LGU infrastructure projects against a payment default via a three-layered credit enhancement—an intercept of Internal Revenue Allotment (IRA) transfers from the national government, a mandatory reserve fund for the project, and backstop guarantee. The guarantee fee is payable upfront at the time of bond issuance and is set according to the risk characteristics of the concerned LGU and the project.

<sup>15</sup> Nguyen Thanh Liem. 2010. A speech at the Conference of Viet Nam Spain Multilateral Partnership, Ho Chi Minh City. 25 March. <http://www.icex.es/partenariadovietnam/Sectorial/Desarrollo%20urbano%20en%20Ho%20Chi%20Minh%20City.pdf>

Based on BSP's ruling, LGUGC guaranteed bonds are exempt from the 50% risk weight of BSP's capital adequacy requirement for banks' loans or investments. However, because of its limited capitalization, LGUGC are currently limited to guaranteeing not more than Php 150 million per transaction. In 2000, LGUGC entered into a co-guarantee agreement with USAID under which USAID backstops 30% of LGUGC guarantees for qualifying projects. LGUGC has also created an in-house credit rating system for municipalities based upon a series of indicators but its model has not been able to fit well with the credit ratings of traditional (labor-intensive) credit analysis.

31. Republic of Korea's Korea Infrastructure Credit Guarantee Fund (KICGF), formed in 2005, provides guarantees for construction firms' financing of social infrastructure through local bank loans. Municipalities may issue "compulsory bonds" for rail and certain other types of infrastructure and they are purchased by a special public fund financed by special taxes on vehicle purchases and by construction licenses. The fund is managed by Korea Credit Guarantee Fund (KODIT), established in 1976 as the sole provider of credit guarantee system under Korea Credit Guarantee Fund Act of 1974.

32. In India, a comprehensive set of subsidies for investments in urban infrastructure and market reform is in place under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). These subsidies for project preparation and capital works, combined with viability gap financing mechanisms, provide a comprehensive model of support to the sector. Disbursement has been slow however, hampered by poor quality project development and lack of viable financing structures.

33. In Indonesia, an even more comprehensive model, focusing on encouraging PPPs uses three specialized funds: a land-acquisition fund, a guarantee fund, and a donor-financed infrastructure-investment fund. The aim is to attract up to 70% of project funds from private sector co-investment in large projects. The Indonesia Infrastructure Guarantee Fund (IIGF) is a 100% state-owned enterprise to provide risk guarantees to investors in public-private partnership infrastructure projects. Its structure is designed to ensure full independence from the government, insulating IIGF from political interference. In addition, its charter intends to promote robust governance, high standards of transparency and disclosure, and total ring-fencing of its assets. For a PPP investor to obtain a risk guarantee, the contracting agency (e.g., ministry, another SOE or regional government) submits a proposal for guarantee to IIGF that is the basis of a recourse agreement between IIGF and contracting agency, plus a guarantee agreement between IIGF and investor. In the event that the guarantee is called, IIGF will pay the investor's claim while seeking reimbursement from the contracting agency as stipulated in the recourse agreement.<sup>16</sup> Reimbursement functions as a penalty for the contracting agency, thereby encouraging discipline and accountability. The model also includes a project development facility and is currently being implemented. Annex 4 details the risk mitigation and credit enhancement mechanisms used in the Republic of Korea and Indonesia.

## (ii) *Risk Pricing Mechanisms*

34. Risk pricing mechanisms, such as ratings, provide an objective assessment of the risk of default on a bond issue, and thereby provide essential information to prospective investors. They increase the transparency of finances to both investors and citizens, help establish a transparent credit record and a reference framework for current and future performance of local finances and debt management.

<sup>16</sup> Indonesia Infrastructure Guarantee Fund. <http://iigf.co.id/Website/Home.aspx>

35. While India has a well developed credit rating agency (CRA) sector, including Indian agencies, few other Asian DMCs have such strong capacity to rate municipal infrastructure projects.<sup>17</sup> Half a dozen other DMCs (PRC, Philippines, Indonesia, Malaysia, and Thailand) have well established CRAs but almost all of them focus on corporate bonds and loans.

36. The Philippines' LGUGC developed a scheme for ranking municipalities beginning in 2002 and eventually passed that to Phil Ratings, but there have only been a handful of municipal ratings since then. In the Philippines, as in other DMCs, this is as much a function of municipal unwillingness to bear the expense of a rating as of limited research into municipal operations.

37. Local banks, relying on higher-tier government credit support, for example, in the form of guarantees and intercepts, are still the main financiers of infrastructure for all but the biggest cities. Under this kind of arrangement, there is no flow of information to potential bond investors, such as pension and insurance funds or remote lenders and no feedback from them to municipalities on how attractive their infrastructure might be for investment.

### **C. Specialized Financial Instruments and Mechanisms**

38. Few specialized infrastructure finance instruments are used within Asian DMCs. India has approved the use of tax advantaged infrastructure bonds but has yet to establish a regular program of recurring issues that could create liquidity or predictable supply—necessary steps to cultivate reliable investor demand. The Philippines securitized the cash flow from a few parts of Manila's Mass Rapid Transit (MRT) network in 2002 to refinance earlier bank loans, but there has only been one similar issue over the next eight years and neither of them have any liquidity. The norm for infrastructure debt remains syndicated lending arranged by the banks in a project finance consortium selected by the city.

39. The Tamil Nadu Water and Sanitation Pooled fund (TNWSPF) and Karnataka Water and Sanitation Pooled Fund (KWSPF) were set up as Special Purpose Vehicles in 2002 and 2005, respectively, to enable small and medium urban local bodies (ULBs) access the capital market to finance viable urban infrastructure projects. In 2006, the Ministry of Urban Development (MoUD) introduced a scheme called the Pooled Finance Development Fund (PFDF) that would provide credit enhancement support with the objective of scaling up the TNWSPF and KWSPF pilots and replicating them in other states. Bonds issued under these mechanisms are unsecured but are backed by two to three layers of credit enhancement—escrow of project revenues, creation of a Bond Service Fund funded by the state government. The first pooled bond issuances by TNWSPF (\$6.4 million) and KWSPF (\$23.3 million) were also credit enhanced by USAID guarantee of 50% of the bonds' principal to replenish the Bond Service Fund, if needed. TNWSPF is in the process of appointing underwriters for another issue of INR 510 million in 2011 (under the KfW-assisted Sustainable Municipal Infrastructure Financing-Tamil Nadu, SMIF-TN, program) to partly refinance the loans given by TNUDF to 19 ULBs to finance urban infrastructure projects. No other pooled fund has been structured since the Tamil Nadu and Karnataka funds. Annex 5 details the structure of the TNWSPF and its flow of funds.

40. The Philippine Water Revolving Fund (PWRF) has been set up as a co-financed, revolving fund for leveraging limited public resources to mobilize private capital for water and

<sup>17</sup> Since 1996 when the first municipal bond issue was rated by the credit rating agency CRISIL, all major rating agencies—CARE, FITCH, ICRA and CRISIL—have provided ratings for municipal and municipal enterprise bond issues. Under JNNURM, the Ministry of Urban Development (MoUD) commissioned the credit rating agencies (FITCH, CRISIL, ICRA, CARE) to rate the JNNURM cities. About 62 cities have been credit rated till January 2010, of which 50 have received investment grade rating.

sanitation infrastructure.<sup>18</sup> This is the first combined revolving fund mechanism for water projects in South East Asia. The PWRP blends a \$20 million, 40 year low interest rate loan from JICA (interest free for the first ten years) with shorter-term, market rate loans provided by local financial institutions,<sup>19</sup> for lending to creditworthy water districts, local governments and private utilities. The structure of the fund has been designed to allow borrowing by these entities at lower blended rates of interest and for longer tenors than they would normally have access to. The borrowing entities will also generally be required to put in 10% equity towards the capital cost of the projects for which they borrow. LGUGC, in collaboration with USAID's Development Credit Authority partial guarantee, will provide credit enhancement support to bring in additional private sector finance for the revolving fund. Since the start of the PWRP, private financial institution lending for water supply projects has grown with 10 water districts are accessing around \$20 million. In future, the PWRP will be looking to develop other mechanisms, such as bond financing and loan securitization, to encourage more private sector participation.<sup>20</sup> Annex 6 shows the working of the PWRP in detail.

41. The Philippines, India, and the People's Republic of China (PRC) have experimented with municipal bonds, most of which were, directly or indirectly, for infrastructure finance. As of 2010, all such bonds were private placements in form or effect, so there was no liquidity and they produced no regular public risk-pricing information.

#### **D. Capacity Building Mechanisms to Strengthen Base**

42. At the subnational level, limited or weak fiscal administrative and financial management capacity and capacity for managing infrastructure projects, particularly large projects, means that all the key elements of infrastructure finance are also likely to be weak. The appreciation of what the proper level of institutional capacity is for developing an infrastructure project depends upon one having worked in or near a strong institution before. Also, many of the needed skills and attitudes can be inculcated through explicit training, but the long term commitment to apply those skills and attitudes is ultimately based upon the direct experience of having worked in relevant institutions, with competent investors and managers and with the right balance of financial instruments and properly enforced legal and regulatory systems. Where capacity is weak in so many of the important areas, capacity building must be a long term, iterative process. It should entail a career-long series of certification levels to work through and a continual training function. A week-long workshop serves only as the introductory course for those with little exposure to the complexity of infrastructure planning and administration.

43. The capacity of municipal service utilities to operate as corporate entities with well defined and strictly enforced financial, governance and performance management frameworks, is equally important to sustainable financing and provision of urban services. The resulting performance improvements help lower costs, increasing infrastructure services' access and affordability, especially for poor households. Such utilities are also better able to access long-term private capital to increase investments and expand services. The assistance provided by ADB to Nanjing integrated water and wastewater utility is an example of the kind of areas—

<sup>18</sup> The government of the Philippines' thrust to meet Millennium Development Goals (MDGs) targets for water supply and sanitation by 2015 required \$1.8 billion as per the Feasibility study of the PWRP.

<sup>19</sup> The PWRP Program is a partnership between the Government of Philippines (Department of Finance, as the lead, Development Bank of the Philippines and Municipal Development Fund Office), JICA, USAID, and private financing institutions through the Bankers Association of the Philippines and LGUGC. The overall PWRP Support Program has three main objectives, i.e., establish the co-financing facility and develop a long-term financing strategy; strengthen water and finance sector enabling conditions vital to the Program's success, including corollary regulatory reforms; and assist water service providers and LGUs in developing a pipeline of viable projects.

<sup>20</sup> Global Water Intelligence. 2008. Volume 9, Issue 11.



long-term capital investment planning, financial viability, governance, risk management—where capacity of municipal utilities needs to be developed to help them access long-term finance from capital markets.<sup>21</sup>

44. As mentioned earlier, financing urban infrastructure involves a range of entities, from governments and facilitative institutions to investment channels to contractual conventions among different levels of government. To apply the principles that form the basis of institutions and mechanisms for subnational infrastructure financing, and to reduce risks and thus the transactions costs of finance, the key elements of the infrastructure finance market need to be strengthened and made more efficient. Table 1 summarizes the evolution from a low level of efficiency through to a high level in each element.

**Table 1: Evolution of Market Elements**

How Much → By Preferred Practice	Low	Medium	High
Infrastructure-service provider <b><u>independent</u></b> of state	State department with politically appointed senior management	State-owned corporate service provider; private w/out competition	Private corporate service provider, with competition
Fiscal administration has <b><u>experience</u></b> and <b><u>integrity</u></b>	Smaller provinces and cities, alone	Large municipalities	Largest municipalities and MDFs
Fiduciary controls <b><u>independent</u></b> of revenue collector and spender	City acts as or appoints trustee on long-term basis; City's own auditor	Higher-tier government assigns trustee; Independent auditor	Stand-alone trustee must compete for 3-year appointment; Independent auditor
Loans <b><u>pooled</u></b> for refinancing, with recourse?	MDFs and higher-tier government (w/out)	MDFs, State sector agencies (w/out)	Covered bond pools (with)
Service design, planning and construction under <b><u>unitary control</u></b>	Consortium, with multiple providers of each service	Joint ventures between state and private developer	State or private concession developer control
State's <b><u>power</u></b> centralized and reliable (rules vs. edicts; enforcement)	Rule-based mostly and fairly reliable	Some combination of the other two	More edicts; enforcement can be uneven
Bonds issued by? Have <b><u>liquid</u></b> secondary market?	Large cities, most states and provinces	Larger cities and states, MDFs	Largest cities and states, large MDF(s), Covered-Bond Bank
Credit-risk mitigation <b><u>independent</u></b> of state	State guarantees	State + Commercial guarantees	Commercial guarantees and CDS
Credit and political risk <b><u>transparent</u></b> in its pricing	Public entities offer guarantees on an as-requested basis to investors; Single rating agency	Lending banks offer separate guarantees for their own loans; Rating agencies	Competitive OTC tenders for guarantees from private sector; Rating agencies
State <b><u>instruments</u></b> are used in financing and operations (vs. PPP, etc)	Usually, in concert	Usually, to support	Sometimes, targeted
Specialized Instruments	No	Yes, but not liquid and administratively determined	Yes, liquid and subject to market assessment
Training – skill and capacity-building of subnational entities <b><u>regular</u></b>	Private agencies	Tertiary institutions, National agencies	Tertiary institutions, MDFs, National agencies

<sup>21</sup> ADB. 2008. *Technical Assistance to the People's Republic of China for Nanjing Water Utility Long-Term Capital Finance in Commercial Markets*. Manila.

45. The sections above provide a perspective on the direction of development of subnational infrastructure finance and the manifest gaps characteristic of most ADB DMCs. Given this perspective, it is important to identify where ADB should focus its resources in its efforts to further strengthen this area and eventually mainstream subnational financing of infrastructure.

## V. Assessing ADB's Comparative Advantage

46. Before discussing what ADB should focus its resources on, it is also necessary to briefly review the competitive position of ADB *vis-à-vis* its DMCs infrastructure finance markets, subnational requirements and the processes of implementing infrastructure projects. This comprises two elements—a review of ADB's financial products and capacity, and of its processes.

### A. Financial Products and Capacity

47. ADB's product line is overwhelmingly dominated by sovereign lending on favorable, but commercial, terms afforded by its AAA credit rating. It also provides subsidized sovereign loans and grants to low income DMCs through its Asian Development Fund window and Technical Assistance (TA) grants, usually for project preparation, funded by its donor members and its surplus. It has the capacity (by Charter) and instruments to provide subnational finance to both subnational governments and state-owned enterprises. ADB also has sovereign and private sector political risk and partial credit guarantees. In addition, there are specialized, and, to date, relatively small, financing facilities, with ADB acting as the trustee of donor funds, which it disburses to support TA and investment in specific policy areas. Lastly, through its Private Sector Operations Department (PSOD), ADB provides debt and equity to private companies and investment funds where the developmental impact will be significant.

48. These products can, in principle, address a wide range of activities which will develop the key elements of the government and financial system to support subnational finance. Sovereign loans can be, and are routinely, channeled through local financial institutions, strengthening their capacity and familiarity with, infrastructure financing. Policy loans can be specifically targeted, as in the Indonesian Infrastructure Program Loan, to improve the enabling environment for infrastructure finance and project development.<sup>22</sup> TA can be used to develop pipelines of projects and to build capacity. PSOD has funded financial institutions, increasing their capacity to undertake infrastructure finance and has catalyzed a number of infrastructure funds. All these activities are valid and positive contributions to both financing of infrastructure and to building the systems of infrastructure finance.

49. ADB's primary modality, the sovereign loan, is becoming less useful in building capacities in the key elements of the infrastructure finance market. This is because many of the improvements that can be made in government finance channeling institutions (GFIs) and the policy environment through sovereign lending, have (already) been made in many Asian countries.<sup>23</sup> Nevertheless, given the varied circumstances for direct subnational engagement across DMCs, technical assistance attached to sovereign loans still has a role to play.

50. Subnational infrastructure lending, in particular to local governments, has not been very successful for a variety of internal and external reasons. Guarantees have been used in a very

<sup>22</sup> A PPP project development facility was attached to the Indonesian loan.

<sup>23</sup> Sovereign lending has regained its utility for a number of DMC governments as the appetite for sovereign financing on the part of international private financial institutions has diminished in the wake of the global financial crisis.

limited manner—being a bank, the ‘infrastructure’ is set up for lending, with no ‘incentives’ for using guarantees i.e., guarantees have the same risk exposure norms as loans and would be treated the same in terms of accounting. Also, with guarantees possibly having a lower probability of drawdown, there is no headroom benefit either. The Financing Partnership Facilities (FPFs) have far too few resources to bring about systemic change by leveraging their and ADB’s funds to address policy issues. Further progress in developing subnational financing systems depends on addressing the financial capacity of subnational governments, the capital market institutions, project sponsors i.e., subnational governments and their entities, and the risks involved in the market more directly. Annex 7 provides an overview of the kind of subnational interventions being undertaken in other multi- and bi-lateral development financing institutions.

## **B. Processes**

51. ADB’s project development process has many advantages. ADB has convening power, thereby improving coordination among government levels and institutions. It has access to a broad pool of knowledge on good practice and talent to prepare projects—both internationally and within a country. It has the capacity to work with a broad range of institutions in both the public and private sector. It can link to other development assistance agencies, and to national, regional (Asia) and broader international networks to establish strategic partnerships.

52. However, ADB’s programs are locked into a rolling country partnership strategy (CPS) agreed with national government sectoral agencies, intermediated by the Ministries of Finance. As a result, the subnational and PPP projects, which would enable ADB to more effectively address the capacity of subnational project sponsors, capital market institutions, and the risks involved in the market more directly, are not put in the pipeline for development and assistance.

## **VI. Proposed Roles and Opportunities for ADB**

53. If ADB is to maximize the impact of its operations and the potential of its processes and products to help bridge the subnational infrastructure finance gap, a new approach to the use of its resources is needed. ADB needs to use its resources as a catalyst for structural change in the key elements of the infrastructure finance market. Given that (a) it is a development bank and the purposes of its operations will be to implement investments generating global and regional public goods,<sup>24</sup> and (b) the external benefits of such investments will often not be fully priced, ADB must also use donor grants and other resources for viability gap financing where governments cannot fully cover this. It must use these resources to build the financial capacities of subnational entities, promote a hard credit culture, develop credit enhancement mechanisms that help mobilize and leverage resources, and support market development. Lastly, to ensure that the subnational financing rationale discussed above is embedded in the CPS,<sup>25</sup> country programming and project development needs to involve proactive dialogue with both national and local governments early in the process.

54. To do this, ADB will need to use the full range of its sovereign and subnational lending, guarantees and financing partnership facilities. It will need to combine interventions that range from building awareness and capacity in subnational entities and ADB, enabling environments and pilot initiatives to demonstrate the usefulness of mainstreaming subnational financing.

<sup>24</sup> ADB. 2008. *Strategy 2020*. Manila.

<sup>25</sup> ADB. 2011. *Mainstreaming Non-sovereign Public Sector Financing*. Manila.

It will need different approaches to project development, structuring projects for PPP and capital market involvement. The paper groups the potential roles and opportunities for ADB around technical assistance and financial interventions (A), (B), (C), and (D) below and shows how these interventions will help improve financing.

- A. **Build capacity through technical assistance** – to improve the fiscal and financial base for more effective utilization of facilitative financing instruments and mechanisms;
- B. **Market structures** – to improve information, risk-pricing and reduce financing costs through widening the range of sponsors and financiers participating in the market;
- C. **Risk mitigation through selectively utilized, transparent and competitively allocated guarantees and subsidies** – to boost usage and lender awareness and to enable the financing of investments which have significant public or merit-good characteristics; and
- D. **More efficient mobilization and utilization of own resources** – to increase governments' capacity to engage in alternative financing options.

55. The following sections illustrate ADB activity in each of these areas. Annex 7 provides an illustration of ADB activities with the range of institutions with which it must cooperate toward this end.

## A. Build Capacity Through Technical Assistance

56. **ADB should** embed subnational capacity development assistance in all its urban infrastructure development projects. This assistance should be geared towards building the capacity of subnational governments to improve their own source revenues, especially property tax, financial management, debt-absorption capacity, debt management and monitoring ability, and project development and implementation capabilities to help improve their creditworthiness and enable access to market borrowings. It should provide capacity development for the legal provisions and regulatory framework required to enable the flow of long-term market funds to the urban infrastructure sector. Utility companies should also be similarly targeted to help improve their performance and financial viability, hence, creditworthiness. Technical assistance could be provided for operational benchmarking exercises, establishing sound regulations and performance standards, strengthening financial management systems and preparing capital investment programs and bankable projects.<sup>26</sup>

## B. Market Structures

### (i) *Broader-based Investment Instruments*

57. Given the scale of infrastructure financing needs at the subnational level, accessing finance via different instruments is already becoming essential in most DMCs. However, the norm for subnational finance remains borrowing from banks, and for large projects, syndicated lending arranged by banks in a project finance consortium selected by the city. While still not widespread in their use, municipal bonds are increasingly being looked at by cities as a powerful capital allocation instrument to build and maintain infrastructure. Developing countries have

<sup>26</sup> Experiences of programs, such as the Sub National Technical Assistance Program under the Public-Private Infrastructure Advisory Facility (PPIAF) managed by the World Bank to help subnational entities improve their creditworthiness, and the Cities Development Initiative for Asia (CDIA) managed by ADB to provide capital investment planning and project pre-feasibility assessment support could also be drawn upon.

introduced them since 1990, taking a cue from the US and European markets. If designed properly, and set within appropriate legal and regulatory provisions for subnational borrowing, they are standardized notes with an established window service process of approval. This makes their transaction costs and risk premium relatively low and predictable, with a fairly quick issuance process. These attractions can draw a large and diverse number of municipal issuers to the market and create a variety for investors, thereby helping lower the average portfolio risk. The (application) process of issuing such debt also allows regulatory oversight from a central agency, which can impose its standards for fiscal administration and fiduciary competence upon municipalities through a certification requirement. Capacity in those cities can likewise be built through standardized training modules to attain each certificate, which private-sector firms can be certified to offer. Using the attraction of convenient, cost-effective funding can foster competition among service providers to the cities and, eventually, among a wider range of investors.

58. **ADB should** structure its own projects to issue municipal bonds. This requirement, combined with the targeted capacity building assistance, would help prime the local financial market with new issues under a reliable process, that is, the ADB-sponsored TA. The technical assistance could be for structuring of transactions to issue bonds, preparation of entities/governments for credit ratings and hand-holding through the issuance process.

(ii) *Flexibility in Asset Allocation*

59. Institutional investors are looking for new sources of return and better diversification of investment risk in their portfolios. Infrastructure is being increasingly considered beyond the traditional asset classes of equities, bonds, cash and real estate. Infrastructure seems to be a natural fit with the long-term liabilities of many pension plans. Investment in infrastructure is also being seen as socially responsible investing, especially public and industry-wide pension plans. In terms of returns, currently there is established benchmark for infrastructure.<sup>27</sup> Many countries restrict the investments that institutions such as pension funds and life insurance companies can make. This is reasonable given the importance of the need to fund pensions and insurance policies over the long term. More capacity building is needed to bring regulators of long-term funds into the planning process for new urban infrastructure.

60. **ADB should** work with domestic regulators for insurance, banking, investment funds and financial markets to develop a strategic approach to prudential rules on asset allocation and link these to infrastructure risk mitigation structures and infrastructure financing instruments. While these new rules would still support liquidity and appropriate risk for investors, they would leave room, and clear incentives, for fund managers to develop risk management skills and connect return targets to clear metrics of performance and risk.<sup>28</sup>

<sup>27</sup> OECD. 2009. *Pension Fund Investment in Infrastructure*. Manila. According to a recent survey, return expectations for the asset class infrastructure over 10 years are an annualized 9.5%, putting it in second place behind private equity (11.3%). In comparison, stocks are expected to return 9.0%, bonds 5.1% and cash 3.7%.

<sup>28</sup> This approach is consistent with OECD standards of national debt management since 1994.

**How these initiatives improve financing as compared to the limited range of and flexibility in asset allocation**

- 1) Building demand for the funding instrument among both municipal issuers and investors will eventually create competition on both the demand and supply side of the transaction.
- 2) Using certification standards for operation and issuance creates competition among private-sector service providers of both training and financial intermediation.
- 3) Building inter-agency cooperation will make the policy tools more powerful and limit unintended regulatory spillover between infrastructure and financial markets.

**ADB's opportunities and potential roles here**

- 1) Helping DMC regulators set up a regulatory framework and agency, plus the appropriate kinds of certification standards needed for fiscal administration and fiduciary competence.
- 2) Requiring urban infrastructure projects it supports to issue through the same municipal infrastructure bond and requiring pension- and capital market-related TAs to include this asset class.

(iii) *Municipal Development Funds/Banks, Financed by Covered Bond Issuance*

61. Although various kinds of MDFs in DMCs issue their municipal bonds more frequently than individual municipalities, those bonds are still not liquid and their ratings do not engender enough confidence to ensure that they are highly marketable on their own. Nor are they eligible for repurchase agreement (repo) financing, which would support their market liquidity. The addition of tax transfers (e.g., their interest payments being exempt from income tax by investors, such as insurance and mutual funds) sometimes makes enough difference in the United States to support a stable level of market demand, including by retail investors.<sup>29</sup>

62. An important element that is missing in these DMC cases is a further focus on the needs of the largest segment of the institutional investor market i.e., insurance and pension funds. These investors seek reliably low credit risk, long maturities and significant repeated issuance of identical bonds in large amounts. The simple covered bond fits this requirement. In a covered bond, a bank/specialty bank buys a pool of loans given to subnational governments and authorities or public-private partnerships, combines them, and issues a bond that is supported by the cash flows from the loans. The collection of investments/loans is called the 'cover pool' and the loans remain on the books of the issuing bank. Since the underlying loans of a covered bond remain on the balance sheet of the issuing bank, it reduces the risk that the bank will ignore prudential lending standards. Furthermore, the loans that 'cover' the bond must be of high quality and are regulated by third parties. Loans whose quality is deteriorating have to be replaced with high quality loans. In the event of a problem, covered bond holders have recourse to both the issuing bank and the pool of underlying collateral to protect their investment.<sup>30</sup>

63. **ADB could**, with agreement of the government concerned, designate, capitalize and build the capacity of an existing MDF-type institution or capitalize one special-purpose institution per country as a nationally authorized covered bond issuer. The institution would adopt rules

<sup>29</sup> Indian municipalities hope tax exemption will make a difference in their markets, but it has not, so far. Ministry of Urban Development guidelines cap the interest rate at 8% on tax-free municipal bonds, thereby making pricing less flexible. The tax-free status is not attractive to long term investors like pension funds as these are tax-free entities in India.

<sup>30</sup> A covered bond, in other words, is a standard corporate bond, issued by a financial institution, but with an extra layer of protection for investors. That extra protection generally results in AAA ratings for covered bonds.

modeled on German or Spanish covered bond legislation, which specify asset eligibility plus ring-fencing and replacement rules. This institution would purchase municipal infrastructure debt from participating banks and other financial institutions, pool the debt in a bond with a significant amount of over collateralization, recourse to the initiating institution and project sponsors, thus reducing risk. The bonds would be sold to wholesale institutions such as pension funds and insurance companies. This would help create a standardized and liquid financing channel for a range of high-quality municipal infrastructure projects.<sup>31</sup>

64. The number of such MDF-type entities could later be increased to two or three in very large DMC economies such as the PRC, India or Indonesia. The subordination effect of the covered bond mechanism could replace or relieve some of the demand for guarantees and subsidies that are in limited supply, if these specialty banks were private-sector banks operating under a special charter, rather than state instruments using off-budget public resources. Given the importance such an institution would have, additional capital required to fund the subordinated portion of its bonds could be raised in the domestic equity markets.<sup>32</sup>

**How these initiatives improve financing as compared to current municipal fund structures and roles**

- 1) It improves risk transparency by creating market liquidity.
- 2) It increases risk-price differentiation by rewarding higher quality projects with ready demand and setting a firm standard for weaker projects to strive for.
- 3) It increases competition in financing and offers a path to reduce policy based lending, which is common in DMCs (and developed market) infrastructure.

**ADB's opportunities and potential roles here**

- 1) Helping form a special-purpose institution that would buy the debt of qualifying MDFs within its DMCs; such qualification would include those MDFs actively building administrative capacity in the municipalities it refinances and developing most of the performance tools discussed in this paper.
- 2) Commission research on the regulatory compatibility of standard covered bond regulations with existing bank and security regulations and impediments to refinancing mortgages and infrastructure loans in a range of DMCs.

(vi) *Information Transparency*

65. The technical, operational, financial, environmental, social and governance characteristics and performance of an infrastructure project change over its development from inception to operation. Public policy changes and operational set-backs are a fact of life that can hurt investor confidence but controlling or suppressing information will kill that confidence. On the other hand, demonstrating an ability to adapt to changing user demands and external impacts is the best way to assure investors that project risks can be managed well. Information-supply mechanisms need to be built into project plans. There have been disparate attempts at generating performance metrics within the DMCs and a number of useful data series are

<sup>31</sup> Covered bond issuance has grown substantially and over \$356 billion of five-year and ten-year covered bonds were issued in 2009 (a very difficult year for any issue) to refinance infrastructure and housing. In the first nine months of 2010, \$257 billion were issued, 26% of which were for provincial and municipal issuers.

<sup>32</sup> The Infrastructure Finance Corporation of South Africa (INCA) raised subordinated debt which was not loaned out but added to its reserves. This junior debt was invested by international donors as financial support. INCA was set up as a private debt fund to support South Africa's municipal bond market and provide new capital where necessary.

available. However, there has been no urgency applied to a consolidated set of metrics that would support the challenges of infrastructure finance.

66. **ADB should** help develop infrastructure project related metrics in support of the proposed new ADB roles above and for the general improvement of funding supplies to cities. It has (already) developed a National Infrastructure Information System that will disseminate a broad and standard set of metrics describing the technical, operational, financial, environmental, social and institutional performance of an infrastructure project. This information will describe the project, providing information across the planning, design and operation stages, and is suitable for PPP projects. Additional metrics are necessary to increase information transparency about projects. Successful targeted data collection in support of the credit enhancement and risk mitigation measures, and new financial instruments, proposed below will also be needed and will produce data useful for many other ADB policy areas.

**C. Risk Mitigation Through Selectively Utilized, Transparent and Competitively Allocated Guarantees, Viability Gap Subsidies and More Effective Project Development and Structuring**

*(i) Guarantees*

67. Investors generally expect differences in risk to be reflected in the rates of return offered. Regulators impose risk prohibitions on many institutional investors to limit their investments to low-risk, state-guaranteed or investment grade assets. On the supply side, DMCs often price services for the broadest possible user access which normally means as low a flat fee as possible, some way below the cost recovery level. This combination has created a bias toward similarly low (-risk) pricing targets for infrastructure, irrespective of true risk. In many instances this means a dearth of capital for sponsors.<sup>33</sup>

68. Public guarantees are the most common form of bridging the gaps between local government perceived risk, risk limits for institutions and the public's need to implement the project. Governments in Asia can take the risk across a pool of local government liabilities more efficiently than the private sector. Like any form of insurance, these guarantees are sometimes called upon to pay for loan defaults and the fee (premium) paid for the guarantee should reflect the default risk of the sponsor, operator, or project structure in order to realize the benefit of lower financing cost pooling of risks, as in commercial insurance contracts. However, public guarantees are usually offered at lower rates i.e., they are co-mingled with subsidies (public transfers) embedded in the insurance.<sup>34</sup> This means that the supply of high-grade (usually sovereign) guarantees determines the supply of infrastructure finance, since even the best-quality projects still fund themselves with official guarantees. As a result, a higher demand for funding does not raise the cost of funding and cannot raise the supply of funds. In effect, it is not permitted to do so as a result of common regulations. Riskier, but viable, projects are cut off from funding by this quota effect. This is one of the biggest factors in the discrepancy between the number of sponsors looking for funding and the number of funded projects, in most countries.

<sup>33</sup> Actual yields do vary from country to country and by type of project, but most of these differ from each other in yield by less than 1% per annum after guarantees. However, inherent credit risk—before guarantees—varies by five to ten times as much.

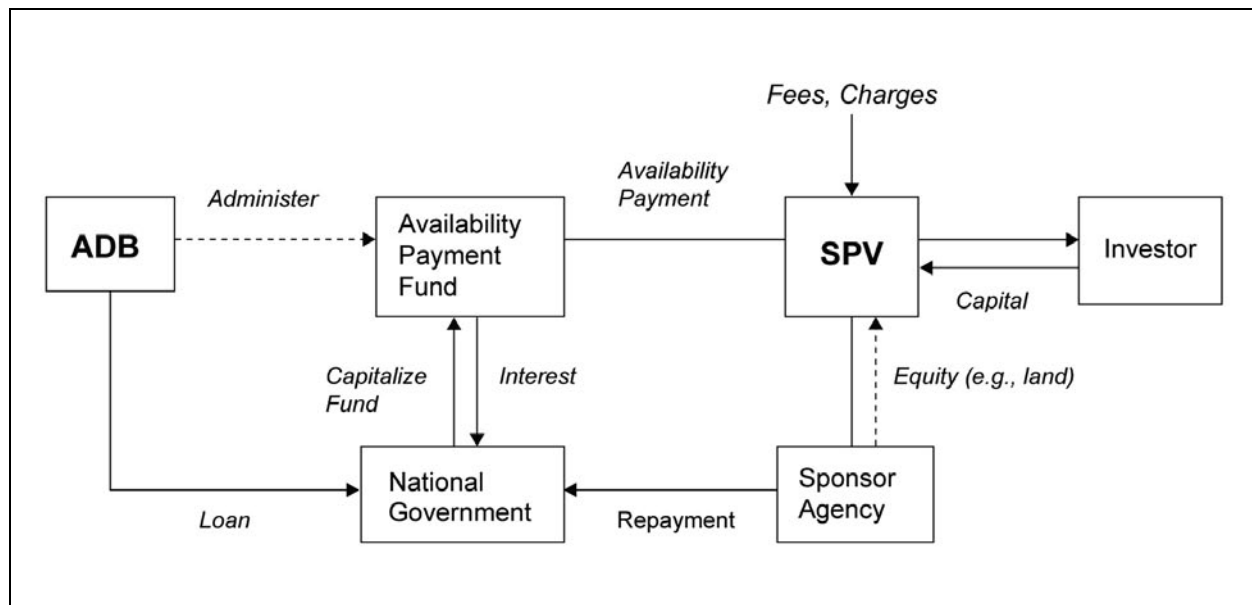
<sup>34</sup> Since these transfers must eventually be covered by the taxpayer, it is important that the conflicts of interest they can create are clearly managed. Neither the risk-sharing nor the transfers should be entirely permanent, if the sponsor is managing the service well, but each has its own logic. By imposing performance goals on each and monitoring their pricing, as suggested above, these supports can be removed as no longer needed. Both borrower and investor can thus be given an incentive to eliminate them quickly.



69. **ADB could** adopt a twofold policy for its guarantees and debt financing to (a) provide an incentive to implement priority environmental and social infrastructure projects, and (b) do so through leveraging international and domestic finance which requires higher levels of credit worthiness, while providing incentives for efficiency and potential for refinancing.

70. Toward this end, ADB should discourage the use of wholesale sovereign guarantees. However, given credit quality restrictions on capital market funds and on wholesale participants i.e., pension funds and life insurance companies, investment grade ratings are still needed. A more selective approach, applying only the appropriate instrument and devoting only the resources needed is preferable. ADB guarantees raising Special Purpose Vehicles (SPVs) to investment grade, supporting mechanisms to ensure investment grade revenue returns (funded through loan facilities, as shown in Figure 2 below), or for first loss guarantees analogous to mono-line guarantees would enable ADB to leverage many times its investment of resources. Such an arrangement is also seen in the Climate Public–Private partnership (CP3) Fund being developed by ADB.

**Figure 2: Mechanism for Investment Grade Revenue Returns**

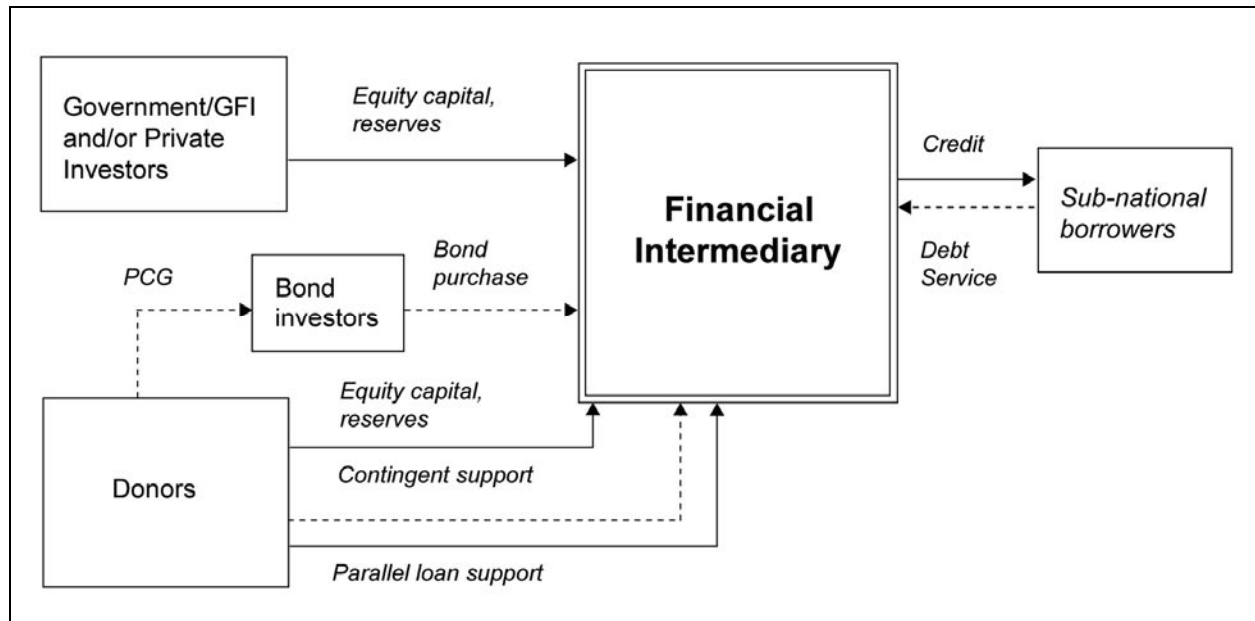


71. ADB should consider using guarantees for credit enhancement through modalities such as provision of initial seed capital or reserves; contingent loans where draw down could be triggered by certain levels of reserve utilization/depletion; subordinated debt through the provision of a parallel loan with a longer-term maturity or different forms of partial credit guarantees (pro-rata guarantees covering a pre-defined portion of debt payment, late maturity payment guarantees, etc.).

72. **ADB could** also shift the supply of its guarantees and low-cost funding away from the construction stage, when the largest amount of funds is raised for the riskiest part of the whole service life. By offering to lead a refinancing of the initial amount, subject to certain performance goals, ADB could provide a clear liquidity horizon to the construction-stage debt investors. In addition to being an alternative to take-out financing, this could better align risks and rewards for these early investors and hold the project sponsor to a higher standard of accountability. By meeting ADB-stipulated refinancing conditions of performance and reporting, the project

sponsor could dramatically lower its financing costs during the usage-building or maturity stage of the infrastructure service. ADB could set up a refinancing facility of loan funds parallel to or in partnership (providing a conditional, partial backstop to the sovereign guarantee) with the DMC that would be drawn down by an SPV buying out prior investors in qualifying project assets.<sup>35</sup>

**Figure 3: Modalities for Guarantee, Other Credit Enhancement Support**



Source: World Bank. 2005. *Local Financing for Sub-Sovereign Infrastructure in Developing Countries: Case Studies of Innovative Domestic Credit Enhancement Entities and Techniques*. Washington, DC.

73. Improved operations in the form of both better fiscal accounts and extended service area generally reduce perceived risk if communicated to investors effectively. As investors begin to reduce the risk premium charged to a project's sponsor or operator, there may be room to reduce the added cost of, or even remove, the original risk buffers such as guarantees, government intercepts and/or reserves. Both borrower and lender pay for the credit support of guarantees in the form of the fee paid by the borrower to guarantors. While neither would want to pay more than the initial fee, both would work harder for improvement if they could profit from reducing that shared cost—regular re-pricing would provide such an incentive.

74. Guarantee charges should, therefore, be widely published and re-estimated annually by their public-sector issuer and/or ADB. Ideally, public sector guarantees should have a commercial equivalent tendered for at the same time, so that the subsidy element is transparently identified. Taken alone, rating agency re-ratings are too narrow and hypothetical a basis and can embody conflicts of interest. A regular re-tendering for commercial guarantees on the remaining period and the next year of service life would offer a balance of rating agency opinion and market supply-versus-demand for risk.

75. **ADB could** make such stipulations to its own participation and take the lead in re-pricing all its own guarantees outstanding annually. Such a practice would improve policy and financial

<sup>35</sup> Such loan funds could be refinanced through a collateralized or even covered bond issue.

performance of contributed capital and inject adaptability in ADB's policy response to past projects to which it still has exposure or a policy interest.<sup>36</sup>

76. **More fundamentally and importantly**, in order to enable proactive use of its guarantees as a core financial instrument as described above, **ADB should** create the appropriate internal infrastructure and incentives. It should reconsider the current exposure norms for its guarantees—i.e., the risk-weighting of guarantees should be assessment based and not 100%, as the case is currently. For, as long as this is the case, there will not be much cost-benefit or headroom benefit of ADB providing guarantees rather than loans. Guarantee support will allow ADB to leverage its creditworthiness to assist clients in raising long maturity resources from the private sector, including capital markets. This would be particularly useful in the current financial climate.

(ii) *Viability Gap Subsidies*

77. Viability Gap funding provides financial support in the form of grants, one time or deferred, to infrastructure projects with a view to make them commercially viable (hence, attract private sector participation). Such support/subsidies are used by numerous governments to encourage investment in infrastructure which has an environmental or social purpose. The objective is to cover a part of the investment to overcome reluctance to invest in projects, types of projects (e.g., CNG versus diesel buses; pro-poor/inclusive, etc.), components of projects which will cost more due to their public good characteristics and/or for projects which have a demonstration effect. India's JNNURM has a significant capital subsidy component of around 30% on average. This support is linked to recipient governments undertaking certain mandatory and optional reforms. Similar subsidies have been used by governments to finance universal access programs through Universal Service Funds. For example, in the telecom sector in India, the Universal Service Obligation Fund has been financed by fees levied as a small percentage of revenue on all sector operators and is managed by the sector regulator.

78. **ADB should** utilize its Financing Partnership Facility funds, in conjunction with its own lending and/or that of national governments, for such viability gap support subsidies. As such a subsidy should be a grant, ADB will need to agree resources with other partners, preferably over a medium term (e.g., 5 year) timeframe. If significant and predictable grant funds are available, it will be possible to set up 'bidding' mechanisms to ensure the minimum amount of subsidy required is applied to a project.<sup>37</sup>

79. While subsidies may be important to achieve initial financing and/or to ensure access to the service on the part of lower income groups, the objective must be to minimize the resources spent on this. That is, escalating performance targets should be linked to declining public subsidy rates. Scheduled improvements in revenue and reductions in operating cost per unit of service are comparable to the kind of earnings-growth expectations that listed companies have upon them. They provide a clear standard that sets the conditions for future funding and,

<sup>36</sup> Another approach would be for borrowers to be required to tender anew, periodically, for guarantees on their debt, so that new risk-pricing information is put into the market. If the original guarantee automatically began amortizing after five years or more, it could motivate both sides to seriously consider re-pricing the project's risk. The project's own history should create new investors in that guarantee, maybe at a higher price, but it would motivate the sponsor to work toward a lower one.

<sup>37</sup> The idea is that of using 'smart' subsidies to finance projects or parts of projects to create enough incentives for a private operator to serve them. It has been used by governments to finance universal access programs through Universal Service Funds, e.g., in the telecom sector in India, where the Universal Service Obligation Fund has been financed by fees levied as a small percentage of revenue on all sector operators and is managed by the sector regulator. The mechanism used by the Global Partnership on Output-Based Aid (GPOBA) to allocate funds to projects has also often been the minimum subsidy tender, with subsidy payments linked to predefined performance criteria (such as installation of telephones in rural areas, increasing water supply services' access to low income households, etc.).

preferably, renewal of contract for senior management or for infrastructure concessions. They force the operator to improve service levels and productivity continually. Escalating performance targets should not be arbitrary or contrived—they should be ‘self-imposed’ as part of the concession tender, but mandatory, if they are to be effective.

80. Similarly, predictable and gradual withdrawal of initial subsidies to tariffs or access to lower cost (government or development agency) borrowing provides strong incentive for operators to improve efficiency and raise service levels. Fixed-line assets and other natural-monopoly service providers will complain that such a policy is unreasonable, but these are the same conditions they would face in a market where barriers to market entry are removed by the regulator.<sup>38</sup> In addition to the competitive-market analogy, the point can be made that higher returns in the early years are consistent with their higher risk and a maturing business (infrastructure service) should expect some decline in profit levels as the operating risk declines and volumes near their peak potential.

81. The improvement in the governments’ fiscal position that dissolving subsidies could offer should benefit DMC governments significantly. One problem, that of donor interest-rate subsidies, which are usually offered as part of a long-term import bargain, would remain, and these are harder to unwind. **ADB should** design its projects and structure its lending to achieve this withdrawal of subsidies over the duration of the project.

**How this improves financing as compared to current use of subsidies**

- 1) It creates new, symmetrical pressure to improve administrative capacity for city infrastructure.
- 2) It improves the effectiveness of guarantees and subsidies in stimulating new, more self-reliant behavior in project sponsors and service providers.

**ADB’s opportunities and potential roles here**

- 1) Stipulate a schedule of estimated subsidy reduction and service level improvements as a condition of its own guarantees and loans.
- 2) Compile a guide to global performance standards for the key features of different kinds of infrastructure to serve as a benchmarking tool for DMC regulators in planning their own performance targets.
- 3) Build capacity in DMCs for an independent fiduciary function (possibly within a competition regulator) to monitor progress in infrastructure service levels.
- 4) Research on effective subsidy levels in infrastructure across the region, comparing these with elements such as user reach, late-stage fiscal self-sufficiency and service levels.

(iii) *Project Development and Structuring*

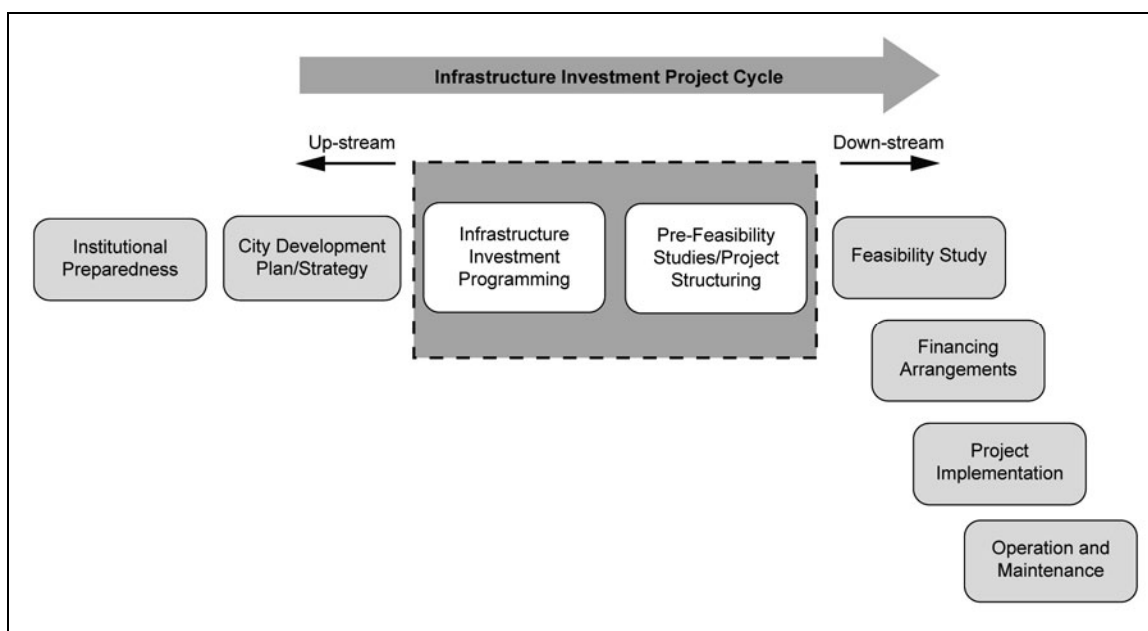
82. Infrastructure is often a high profile activity with high political stakes of success or failure. It often comes in large, fixed-minimum units relative to the municipal budget. The combination of these two factors can lead to local governments undertaking projects that embody risks out of proportion with their capacity to manage them, limit flexibility of action and reduce the opportunity for regular progressive improvements. The staged approach reduces risk considerably but avoids mega projects that attract project finance arrangers and their sponsors.

<sup>38</sup> This should also happen in parallel.

Economy of scale is the main argument for mega projects but a standards-based approach to planning, funding and progressively rolling out urban infrastructure may be more appropriate and efficient in a given institutional and governance context. Further, the quality of project development is important in reducing both construction and operation risk. This applies not only to the technical aspects of the project but also to the environmental and social aspects which are often the root cause of project delays and increased costs.

83. **ADB can**, through its project development mechanisms such as the Cities Development Initiative for Asia (CDIA),<sup>39</sup> address this issue of policy risk. The objective should be to reduce risk, and hence cost, through good project development and structuring. CDIA processes, which embody ADB/Equator Principles and safeguards standards, can assist in this by addressing these issues at an early stage. Given its intervention at a critical juncture in the infrastructure investment project cycle (as shown in Figure 4 below), CDIA processes can also help address at an early stage, issues such as unbundling potentially commercially viable sub-components of a project, in order to maximize the range of financing options available to the project.

**Figure 4: CDIA Role**



#### **D. More Efficient Mobilization and Utilization of Under-Utilized Own Resources**

84. Some subnational governments have more resources than others because they are better able to access funds, either by improving own source revenues or by raising money from higher levels of government,<sup>40</sup> the private sector, or through borrowing. Even so, all cities are resource constrained in relation to the scale of investments required.<sup>41</sup> Additionally, not all subnational entities will be able to access capital markets immediately through mechanisms

<sup>39</sup> The Cities Development Initiative of Asia (CDIA) helps cities shape and prioritizes their infrastructure plans and assess priority projects at a prefeasibility stage to ensure a balance of social, environmental, economic and institutional sustainability is included in their design. CDIA was formed in 2007 and is partnership between ADB and the governments of Germany, Sweden, Spain, Austria, and Shanghai Municipal Government.

<sup>40</sup> Transfers from national governments can, if carefully implemented, be used to balance relative differences in revenues between rich and poor municipalities.

<sup>41</sup> Asian Development Bank. 2007. *Managing Asian Cities*. Manila.

such as bonds. While in some cases, the entities themselves may not be ready to access markets, in other cases the market may not be developed enough to efficiently supply money. Nevertheless, for cities to raise more funds for investment, additional and efficient sources of both taxation and borrowing are required. The two are interrelated because unless local governments efficiently tap into existing and new sources of revenue and central governments allow local governments meaningful revenue autonomy, their ability to expand the channels of alternative financing will get limited. This also requires the building of significant financial administrative and management capacity, including tax, revenue and accounting reforms.

(i) *Property Taxes*

85. Among direct taxes, property taxation is the only one which is typically under the control of municipalities in nearly all DMCs. Almost all local governments all over the world rely, at least to some extent, on property taxation. Despite being a potentially substantial source of own revenue, property taxation is tapped only to a small extent by subnational governments today since there are both advantages and disadvantages to property-tax as a subnational tax.<sup>42</sup> It accounts for only about 0.6% of GDP on average in developing countries compared to more than 2% in industrialized countries. Given that it is currently under-utilized, property taxation could be an increasingly attractive source, even a proxy for many services for which citizens are reluctant to pay. However, there is no right tax system—it is a matter of informed preference and the implementing authority has to decide what to tax (the tax base), how to value the property (valuation) and to what extent the property should be taxed (the tax rate). Experts feel that “the future of property tax in developing countries is mainly dependent on four factors: the pace of decentralization, the efficacy of short cuts to valuation of property; technology catch-up and the willingness of central governments to give local governments access to other productive tax bases.”<sup>43</sup>

(ii) *Land-based Financing*

86. An important additional option for financing local infrastructure, which has been underutilized in many DMC cities is capturing land value gains from public investment. In addition to being a part of the property tax base, public infrastructure investments—in roads, water supply and mass public transportation—invariably produce benefits that are immediately capitalized into surrounding land values. This land based financing is another form of market finance for infrastructure investment and several instruments have been developed for tapping this source. These include, (i) the sale of publicly held land to the private sector via open auction; (ii) betterment levies or special assessments which are one-time charges imposed by a government to allow communities to capture part of the increased value that results when infrastructure is improved or permission is granted to change land use; and (iii) development impact fees which are levied on developers to finance the capital costs of (usually, expanding) public infrastructure systems that their development (or redevelopment) projects will necessitate. Under development charges, developers and home and commercial buyers ‘borrow’ to pay for the capital costs of financing infrastructure; unlike under property taxes where the local government borrows. To the extent that municipalities in developing countries are still in the early stages of becoming credible borrowers, development charges could provide a good alternative.<sup>44</sup> Given its nature, land-based financing also offers opportunities for innovative public–private partnership.

<sup>42</sup> R.M. Bird. 2001. *Sub national Revenues: Realities and Prospects*. Working Paper. World Bank Institute. Washington, DC.

<sup>43</sup> Lincoln Institute of Land Policy. 2007. *The Property Tax in Developing Countries: Current Practice and Prospects*. Cambridge.

<sup>44</sup> UN-HABITAT. 2009. *Guide to Municipal Finance*. Nairobi.

87. The practice of selling land-use rights to raise money for infrastructure creation began in Hong Kong, China, several decades ago. It has since been used in many countries and in varied forms, with Singapore and the People's Republic of China (PRC) using this mechanism extensively. Providing infrastructure developers with the option to develop the land along either side of the rail or roadway was a real innovation. These options have huge potential commercial value once the shopping malls, residential and office spaces are completed. The state then sells these options, bundled with the land auction, at a high price. This is how Hong Kong, China has significantly lowered the financing cost of rail and road extensions.<sup>45</sup>

88. A number of cities in India have adopted or are considering the use of betterment charges under the Town Planning Act.<sup>46</sup> In Mexico, betterment levies are permitted but not widely used because of implementation issues. Betterment levies in the form of land transferred to local governments or off-site infrastructure improvements required by local governments have been more successful. Betterment levies have usually not fared well due to their political unpopularity and hence, the difficulty to collect them in any sustained way.

89. Zoning is the key to efficient land-based financing for infrastructure. Any jurisdiction with clear, regular and tightly enforced zoning laws potentially has a similar revenue source in the form of zoning licenses. These permit use of land at the state's option and in accordance with its medium-term development plan. Windfall benefits that may arise can be partially utilized to reduce service cost or public budget commitments. The strongest logic in favor of imposing zone-based charges and land-use minima is that it promotes the highest and best use of land. If goals such as pedestrian or low-carbon cities are a priority, they can be implemented with some precision through highly focused, zone-based rules and charges.<sup>47</sup>

90. **ADB can**, again through mechanisms such as CDIA, advice to DMC cities on how to plan, structure and implement projects using land-based financing. While potential benefits are large, it is vital that due process be observed in a transparent manner as the potential for corrupt practice is also significant.<sup>48</sup> ADB should also continue its engagement on public finance reform in DMCs as a means of improving local government finances, financial administration and management. It can help develop further and more appropriate legislative frameworks for municipal finance through engagement with both national and subnational governments.

<sup>45</sup> According to certain estimates, 86% of the urban infrastructure investment shortfall in India could be met from two presently untapped sources—up to \$58 per capita if it were able to exercise zoning rules to increase usable floor area through charges, according to economic or environmental priorities, plus another \$43 by retaining 18%–20% of goods and services taxes (versus China's 25%).

<sup>46</sup> Mumbai is the most current city moving ahead with such a tax.

<sup>47</sup> The much tighter budgets that the rich-country recession is forcing on many cities in the OECD countries have led some to rethink the trend of the last 40 years toward urban sprawl and consider "compact development" designs, according to Kees Christiaanse, chairman of Urban Design at the Swiss Federal Institute of Technology.

<sup>48</sup> The development profits of Tsing Yi Island alone paid for a large part of the construction cost of the Chiang Ma Bridge, which turned Tsing Yi from a barren rock in 1993 into a vibrant community and the nexus between Kowloon and Lantau Island's Hong Kong International Airport by 1998. By contrast, local governments in the PRC have been selling LURs since the late 1980s, but they have been doing so at such a rapid pace that many of them have depleted the land within their jurisdiction until these leases expire.

**How these initiatives improve financing as compared to current use of own resources**

- 1) When efficiently administered through appropriate tax, accounting and administrative reforms, property taxes enlarge/strengthen the revenue base of governments with which to service debt.
- 2) When properly designed, the various land-based financing instruments directly incorporate principles of 'market finance.'
- 3) When properly designed as 'market finance' instruments, land based financing supports efficient operation of the urban land market (with positive implications for property tax).

**ADB's opportunities and potential roles here**

- 1) Partner with DMC governments to establish guidelines for public land auctions.
- 2) Embed land asset management capacity building in its TAs—compile a land bank of all available public land in urban areas,\* help assess the market value of the land *vis-à-vis* its value in public use, and develop a Land Funding Policy to identify strategic uses.
- 3) Research developed country experiences (given their longer track record) and developing country experiences to improve practical applications of various land based financing instruments.\*\*

\* The state of Rajasthan, in India, has compiled state-wide Urban Land Bank.

\*\* Bogotá has simplified the 'Betterment Levy' approach into a general infrastructure tax associated more loosely with land-value gains.

## VII. Conclusion and Strategic Next Steps

91. The demand from ADB's DMCs for support at the subnational level is growing as the financial, administrative and management capacities of subnational entities to take on the increasing responsibilities being devolved to them from higher levels of government are proving inadequate. On the one hand, cities in the region have huge unmet demands for infrastructure and services that require massive investments. Given current financing capacities, governments and donor assistance can fund approximately half of the need. Against this sits a smaller amount that the private sector will voluntarily finance by itself under current norms.<sup>49</sup> On the other hand, subnationals have weak financial positions due to inadequate and poorly enforced tax bases and user charges; weak corporate governance and financial management capacities; and poor operational efficiency of municipal utilities. As a result, in addition to affecting their own ability to finance investments, most subnational entities in DMCs are considered weak credits by markets. Furthermore, most of them lack the technical and institutional capabilities to structure projects to maximize the financing and efficiency gains from private sector participation (although, structuring such projects is not simple even for well-resourced governments). Given their own fiscal constraints and to the extent that such support fosters subnational fiscal responsibility and improves capacity for decentralized financing and provision of infrastructure, national governments are also asking for direct support at the subnational level, including lending without access to sovereign guarantees.

92. **ADB's roles:** The gaps in subnational infrastructure finance are not just of finance but equally, and more importantly, of sound operational and financial management, sound

<sup>49</sup> As long as there are alternatives that the private sector perceives as having lower political and operating risk, and as easy to arrange, it will ration funds to infrastructure projects by raising the cost of finance.



governance structures, legal and regulatory frameworks and market structures that form the basis of sustainable subnational finance. Subnationals are emerging as big potential clients and ADB could provide significant leadership in closing the gaps identified. The greatest benefit it could provide would be in leading policy dialogue and reform, capacity building initiatives and pilot transactions that demonstrate the virtues of the recommendations made. Areas it can provide support for range from (i) policy, regulatory and institutional reforms that impact subnational finances and subnational creditworthiness, (ii) piloting financial vehicles and mechanisms for which traditional banks are not suited, and (iii) building the technical and financial management capacity of cities and their entities to become financially credible and accountable. It could facilitate development of domestic capital markets by (iv) providing risk-reducing and credit enhancement support, (v) piloting MDF-type institutions and building their capacity to become intermediaries for subnational finance using, for example, covered bonds, (vi) creating clear performance and financial incentives through restructuring guarantee and subsidy programs in its projects to gradually move initial beneficiaries off these supports and onto self-sufficiency, (vii) structuring its own projects to enable the flow of long-term market finance to urban infrastructure, for example through, municipal bonds, and (viii) require rigorous use of metrics in monitoring project and financing performance. Much experimentation is still required to determine the forms of risk pricing and financial intermediation that can reliably close the viability gap in infrastructure in most DMC cities. Some of the most effective interventions could well be in more innovative, flexible and responsive project development systems.

**93. The crux of the proposed interventions, therefore, is that ADB should, in addition to laying the basis for facilitative financial instruments and mechanisms as stated above, embed subnational capacity development assistance geared towards improving the creditworthiness and performance of subnational entities in all its urban infrastructure projects, in order to sustainably finance and provide infrastructure.** The technical assistance should focus on improving financial management and accountability, project structuring and implementation capabilities, financial administration rules, legal and regulatory frameworks, and market structures and incentives that enable effective utilization of the facilitative mechanisms to access long-term, competitive market finance. Given that the evolving subnational fiscal context is varied across countries in the region, interventions on both the technical assistance and financing fronts will depend on where along the spectrum of ‘intervention preparedness or readiness’ specific subnational entities lie.

**94.** To accomplish this, ADB will have to devote staff and capital to such activities, focusing on subnational clients. It will have to strengthen the synergies between its public and private sector operations teams to evaluate subnational capacity, credit risks and financing gaps and determine appropriate interventions. ADB will need to build internal institutional capacity and provide appropriate incentive systems within to ensure effective use of public and private sector side synergies in conjunction and coordination with its sovereign lending operations.

**95. Groundwork is already laid through ADB’s existing operations and DMCs own initiatives:** ADB already works with subnational entities in some capacity, for example, through sovereign loans that have been made for municipal infrastructure projects. Its private sector arm works with subnational entities/SOEs on limited recourse infrastructure projects. ADB provides technical assistance to help prepare subnational governments and entities for financing infrastructure projects. It has provided policy based lending for public resource management programs which in turn support sustainable financing and provision of urban infrastructure. National governments in several countries appear to be ahead of the curve, having set up initiatives and mechanisms to support subnational financing with own and/or development agency assistance. The nature of interventions being requested by DMCs also reflects their

increased awareness of how development agency support can be better utilized to foster fiscal responsibility and accountability at the subnational level, and hence, to sustainably financing infrastructure.

96. The **next steps** will be to build on the groundwork that has already been laid to support subnational financing of infrastructure in DMCs by strategically operationalizing the proposed roles and interventions. Specifically, ADB should;

- (i) start getting its public and private sector sides to work together on subnational finance, preferably, through a dedicated joint unit comprised of professionals with relevant skills and experience in municipal and public finance, urban infrastructure finance, public–private partnerships, urban development, credit ratings, accounting and legal;
- (ii) engage in pro-active dialogue with DMC governments to ensure that subnational interventions are demand-driven and have ownership;
- (iii) ‘map’ subnational entities in the various regions along a spectrum of preparedness/readiness for the various interventions proposed (akin, for example, to the PPP readiness index);
- (iv) develop the criteria, using indicators such as revenue autonomy, creditworthiness, soundness of the fiscal and administrative relationship framework between the national and subnational, capacity to manage and enforce debt repayments, domestic finance markets for subnational infrastructure, on which to base the above mapping;
- (v) select countries and then the subnationals within these countries that are most suited to or promising for rolling out specific interventions;
- (vi) focus technical assistance on accounting, improving revenue sources, public financial and debt management, developing/improving legal and regulatory frameworks for capital market access, government and utility credit ratings, credit enhancements and the process of issuing municipal bonds;
- (vii) embed technical assistance support for structuring projects to access finance without sovereign guarantees as an integral component of ADB loans; and
- (viii) use credit enhancement through guarantees to support fledgling municipal bond issues, municipal development funds and municipal financial guarantee companies, including reconsidering ADB exposure norms for its guarantees.

97. The conclusions and the next steps above re-emphasize the variety of circumstances of subnationals in ADB’s regions and the different kinds of support these subnationals will require, particularly for leveraging private sector participation (see Annex 7). They also emphasize that this is not just a finance game—attracting funds requires substantive improvements in financial and performance standards; accountability; information, education and communication; capacity building and reforms by all participants. These improvements, and the greater trust they can engender, come from better information flows and the freeing up of incentive mechanisms that lower costs and improve performance. If useful incentives are clear and distinct, they can motivate better use of resources and the search for better ways to serve the public interest. Experiences of other multilateral and bilateral development agencies (see Annex 8) and even own-initiatives of DMCs have begun to show the centrality of these elements

for sustainable financing and provision of urban infrastructure and services, hence for growth, and will require deployment of existing support modalities, as set out above, in ways not hitherto done by ADB.

## Annex 1

### Typology of Urban Finance Systems Across Countries in the Region

Relatively Developed Economies	Economies at Medium Level of Development	Economies with Evolving Systems
<b>1. Resource Mobilization and Public Expenditure Management</b>		
<p>Generally, there is a sound public financial management system in place, with fairly well established tax collection and administration.</p> <p>There is a well-defined long-term vision cascading to medium and short-term development priorities. These in turn are supported by budgets that balance between recurrent and capital requirements. Local governments are likely to have some capacity on their own to develop and execute budgets, guided by acceptable levels of efficiency and accountability. Acceptable and transparent public procurement systems are likely to be in place. Infrastructure provision may be supported by higher levels of cost recovery, and subsidies are likely to be at least somewhat transparent.</p>	<p>Measures are likely to have been taken to modernize public resource management. A general fiscal responsibility framework may be in place, supported by some form of medium-term planning and budgeting techniques. Cost recovery in infrastructure provision may be at early stages of emergence, although untargeted subsidies are likely to be quite prevalent still. Public procurement reforms are likely to be underway. General public awareness on public expenditures may be emerging, although access to information on resource utilization may still be an issue.</p>	<p>Domestic resources highly constrained to support capital as well as O&amp;M requirements. Tax systems need considerable strengthening.</p> <p>Basic systems may be in place for planning and budgeting. Utilities may not be independent. High levels of subsidies may be required, a situation aggravated by poor targeting. Public procurement systems are generally expected to be weak, with limited capacity, inefficiencies and low levels of accountability. Reporting and monitoring may be quite rudimentary.</p>
<b>2. Inter-Governmental Fiscal Framework</b>		
<p>Functions may be defined with acceptable levels of clarity, although operational overlaps between different levels of governments may be seen. Funding may be generally aligned with devolved functions. Local governments have higher levels of own-source revenues, and fiscal transfers are guided by robust systems in place.</p>	<p>Generally, there is likely to be a policy and legal framework on fiscal decentralization, with institutional arrangements in place or emerging. There may be policy as well as operational overlaps in functional assignments, and there may be some alignment between functions and funding allocations.</p>	<p>There may be challenges in functional as well as financial assignments, with overlaps and inadequate funding. Generally, own-source revenue may account only for a small share of total revenue.</p>
<b>3. Long-Term Finance</b>		
<p>Domestic financial sector is fairly diversified, with regular issuance of public debt. Institutions in place to mobilize infrastructure finance. Municipalities and/or utilities may have issued debt instruments or pooled finance options.</p>	<p>Banking sectors may be generally robust, with equity markets and non-bank institutions in place. Some countries may have specialized or “policy” banks/institutions to support project financing, with a few beginning to set up dedicated infrastructure funds.</p>	<p>Financial sectors may not be diversified, or deep. Public debt markets may be shallow. Typically, long-term infrastructure may be financed only by external institutions.</p>
<b>4. Public–Private Partnerships</b>		
<p>Legal framework is likely to be in place to guide PPPs, along with a structured approach to determining public support for infrastructure projects. At least a few projects may be up and running in key infrastructure sectors, with funded risk participation by the private sector.</p>	<p>Emergence of contracting out for professional services in utilities may be seen, although political or other barriers to such arrangements may not be uncommon. Policy makers are likely to be focused on attracting the private sectors, although achieving bankability of projects may quite likely be challenging either because of fiscal impediments or risk perceptions.</p>	<p>While basic legal framework may be in place for private sector companies to be established, direct funded private participation in projects are likely to be low or non-existent due to a range of constraints.</p>

## Annex 2

### Enabling Framework Models for Infrastructure Finance

The table below depicts the main features of the three different enabling framework models within which the financial elements of an infrastructure finance market operate. The table is divided into three sections: the first proposes countries that operate within one or more of these models, the second describes the key actors in the model and the last section describes how each model addresses some of the key financial elements of an infrastructure market. Differences in how these are managed in DMCs are underscored below.

#### Financial Mechanisms and Operational Roles Organized in Three Models

Financing Model → Role – Mechanism	Confederal	Federal	Central
<b>More developed economies</b> most often applying this model	Australia (now), USA (large states), Switzerland, KOR (in near future)	Australia, Canada (now), UK, France, Germany (now), USA (mostly), KOR	UK, France, Japan, Germany (prior), SIN
<b>DMCs</b> most often applying this model	PHI and IND, partially in PRC; MAL (Borneo)	IND, PHI (evolving trend)	INO, MAL, PRC, THA; partially in PHI (esp. past)
<b>Infrastructure developer</b>	Private-sector or <u>State enterprise</u> concession winner	Provincial government Joint venture of State-private firm	Ministry or State enterprise, sometimes at request of local government
Infrastructure <b>service provider</b> (operator)	Private-sector or <u>State enterprise</u> concession winner	Corporatized govt. agency or Joint venture of State-private firm (incl. Mgmt Contract)	Ministry or State enterprise
Finance <b>provided</b> by	Capital markets, based on sponsor and project traits	Govt. revenue and capital markets	Mainly government
Fiscal <b>administration</b> of infrastructure by	Big municipalities (MDFs for smaller)	Higher-tier govt. or MDF	Higher-tier government
<b>Fiduciary</b> controls by	Independent auditor and trustee	Higher-tier government (auditor general)	City's own auditor – trustee delegated by higher-tier government
Development and Operational <b>structure</b> most common	Govt. mandates concessions or <u>co-develops</u> and regulates	Govt. supervises, co-develops, audits and regulates	Govt. develops and operates (sub-contracts some service roles)
<b>Elements of the Infrastructure Finance Market</b>			
Local government role in finance and organization <b>structure</b> most common	Municipal sponsor coordinates with ( <u>takes direction from</u> ) MDFs, private sec., agencies and higher-tier govt. arrange; PPPs – BOT forms, concessions, or privatization	Municipal sponsor coordinates its request with MDFs and higher-tier govt. + agencies to finance; PPPs – BOT forms	Higher-tier govt. responds to municipal requests and arranges most of credit supply; PPPs – concessions
Pooling and <b>refinancing</b> debt of individual LGUs	MDF or specialist (covered) bond bank	State agency or MDF	Higher-tier government

*Continued next page*

Table continued

<b>Financing Model → Role – Mechanism</b>	<b>Confederal</b>	<b>Federal</b>	<b>Central</b>
<b>Risk</b> pricing	Rating agency	Rating agency	Rating agency
<b>Risk</b> mitigation for financiers	Govt. Commercial guarantees, Performance bonds	Govt. + Commercial guarantees, Performance bonds	State guarantees, Performance bonds
<b>Capital markets</b> instruments	Municipal, agency and covered <u>(or SOE)</u> bonds	Municipal, agency and covered bonds	Agency and state bonds
Breadth of <b>investor</b> access	Pension, insurance and retail mutual funds	Pension ( <u>banks</u> ), insurance and retail mutual funds	Banks, some pension funds, insurance funds and retail unit trusts
Legal and Regulatory Framework	Firm rules govern fiscal prudence (ex-ante borrowing and on-lending); Comprehensive arbitration and juridical framework for recourse in the event of default		
Capacity Development	Decentralized institutions provide demand-based services; Certify agents to state determined levels; Improve the accountability and fiscal responsibility of subnational entities up to specified credit risk limits		

### Annex 3

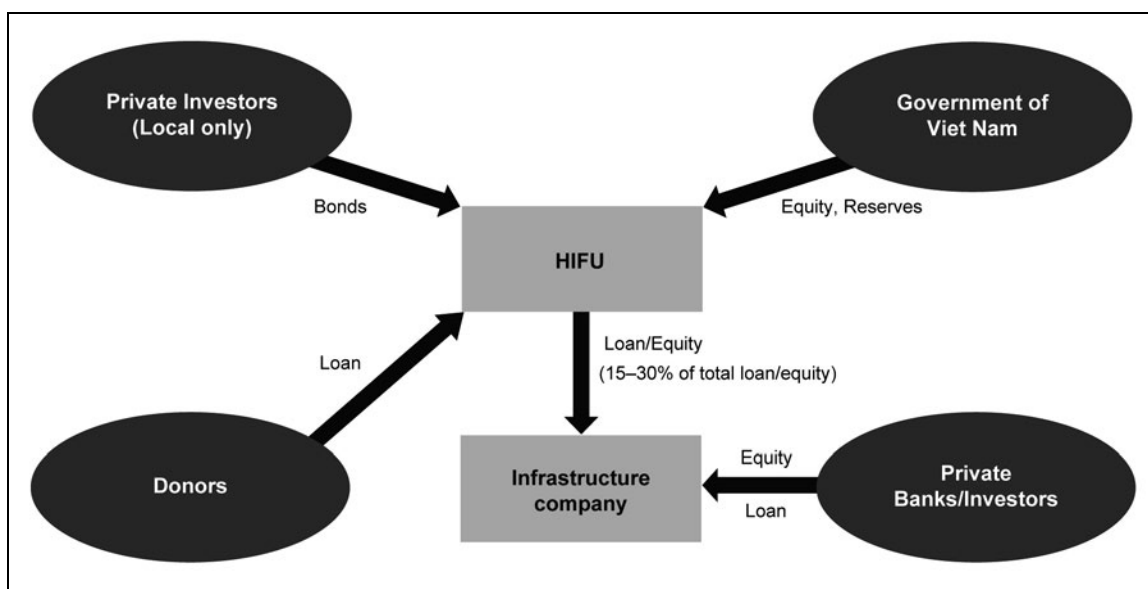
#### Local Development Investment Fund: Viet Nam

The MDF continues to evolve, as in Viet Nam's example of the gradually proliferating model: the local development investment fund, represented by the Ho Chi Minh City Investment Fund for Urban Development (HIFU).

#### A Growing Experiment in Viet Nam – Institutional Channel

Ho Chi Minh City Investment Fund for Urban Development (HIFU) was a pilot local development Investment fund (LDIF) in Viet Nam that began to invest in infrastructure projects in 1997. It invests with either loans or equity in state-owned companies that will use public–private participation to complete their project. To attract private participation in the investment, its investment is capped at 20% of total loans or equity, respectively. By the end of 2009, it had contributed equity to over 20 companies worth \$74 million. Its funding sources vary from municipal bond issuance to grants, loans from donors, and the government's budget.

#### Ho Chi Minh City Investment Fund for Urban Development (HIFU)



Sources: Ho Chi Minh City Investment Fund for Urban Development (2010). *Current Experiences, Opportunities and Innovations in Municipal Financing in Ho Chi Minh City, Vietnam*. Unpublished; Hong, T.T. and Biallas, M.O. 2007. Viet Nam: International Finance Corporation.

The World Bank holds HIFU as a model for increasing private finance in municipal infrastructure and for robust internal policy. In July 2009, the World Bank approved a loan to the Government of Viet Nam to expand the HIFU model to other LDIFs. There were five others in operation at the end of 2010.

## Annex 4

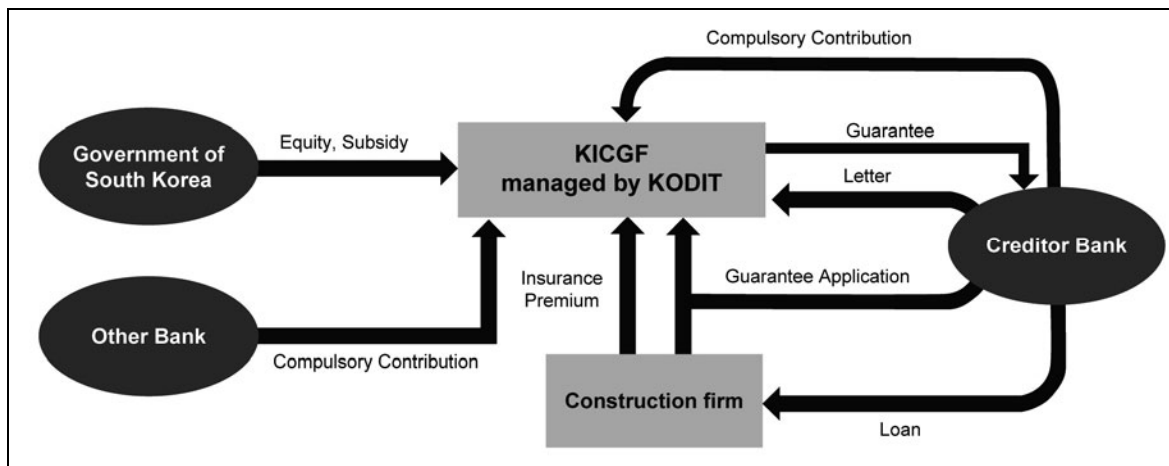
### Facilitative Institutions: Republic of Korea and Indonesia

A more common version of facilitative institution is the guarantee agency, two variations of which are the Republic of Korea's Korea Infrastructure Credit Guarantee Fund (KICGF) and Indonesia's Infrastructure Guarantee Fund (IIGF).

#### Republic of Korea's Guarantee Facility for Social Infrastructure

The Korea Infrastructure Credit Guarantee Fund (KICGF) was launched in 2005 to attract bank financing for social infrastructure investments. It provides credit guarantees to construction firms for the loans they obtain from banks for their investments in social infrastructure. The fund is managed by Korea Credit Guarantee Fund (KODIT), established in 1976 as the sole provider of credit guarantee system under Korea Credit Guarantee Fund Act of 1974.

#### Korea Infrastructure Credit Guarantee Fund (KICGF)



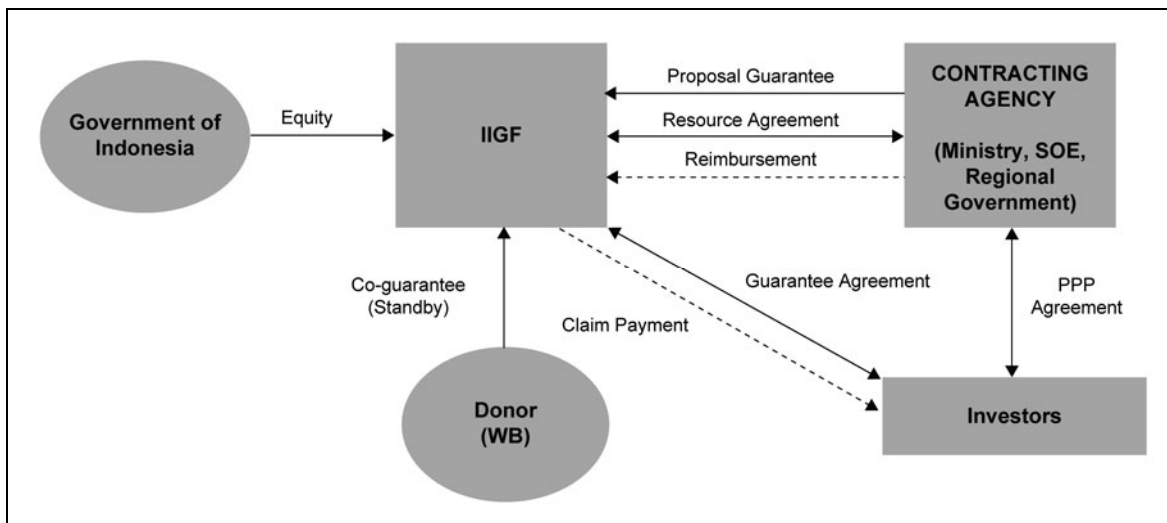
Source: Korea Infrastructure Guarantee Fund. 2009. *Background Document on Conference on Asian Credit Supplementation Institution Confederation*.

The firm must submit an application either to KODIT or to a creditor bank. KODIT examines the applicant's eligibility and the amount of the credit guarantee. Once the amount is determined a letter of credit guarantee is transmitted digitally to the bank. If a firm fails to pay its loan obligation, KODIT, upon request from the bank, makes payment and acquires the indemnity right against the debtors to recover those payments. KODIT does not require collateral for its credit guarantees.

Upon obtaining a guarantee, the applicant pays 0.5% to 3.0% per annum on the outstanding amount of guarantee supplied depending to its credit rating by KODIT. Aside from the premium, another source of funds for KODIT is the compulsory contribution of all the banks of 0.225% per annum of their outstanding loans according to the Korea Credit Guarantee Fund Act.

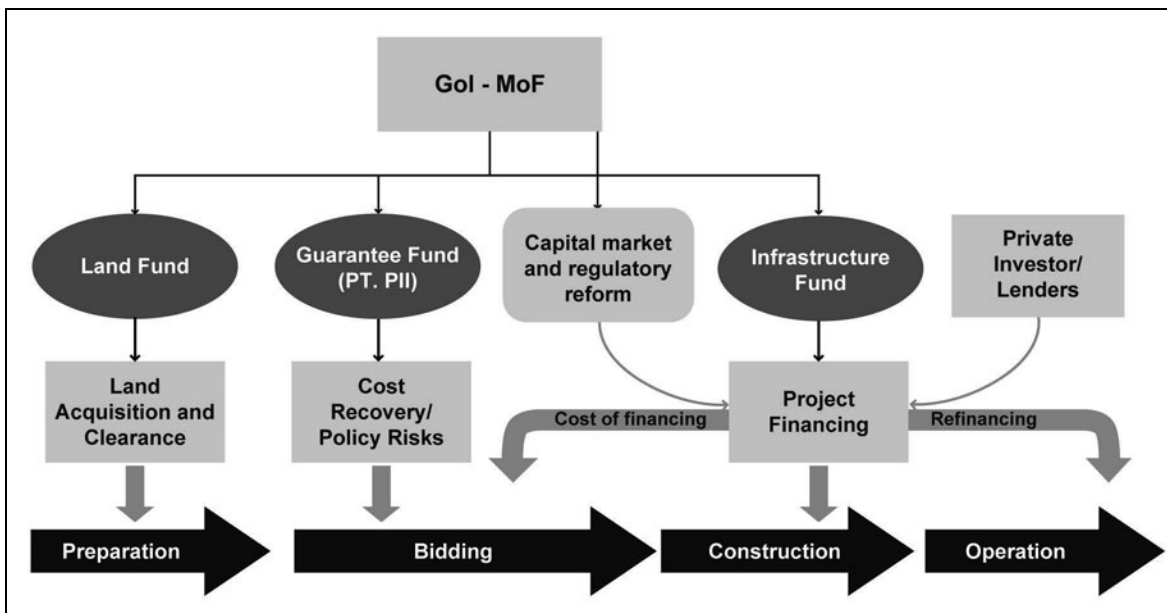


### Indonesia's Arm's-Length Guarantee Facility



Source: Indonesia Infrastructure Fund. <http://www.iigf.co.id/en/home>

### Roles of Indonesia's Land Acquisition, Guarantee and Infrastructure Funds

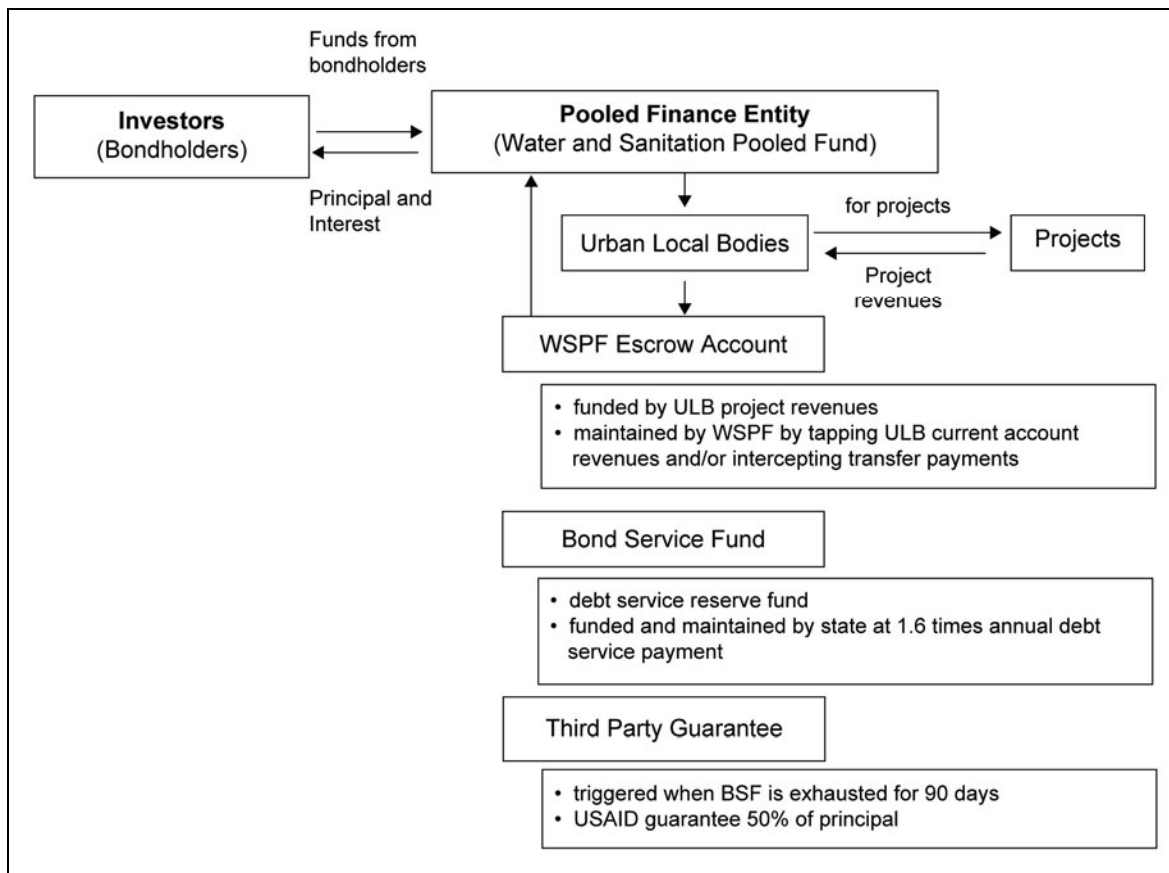


GoI = Government of Indonesia, MoF = Ministry of Finance.

## Annex 5

## Water and Sanitation Pooled Fund: Tamil Nadu, India

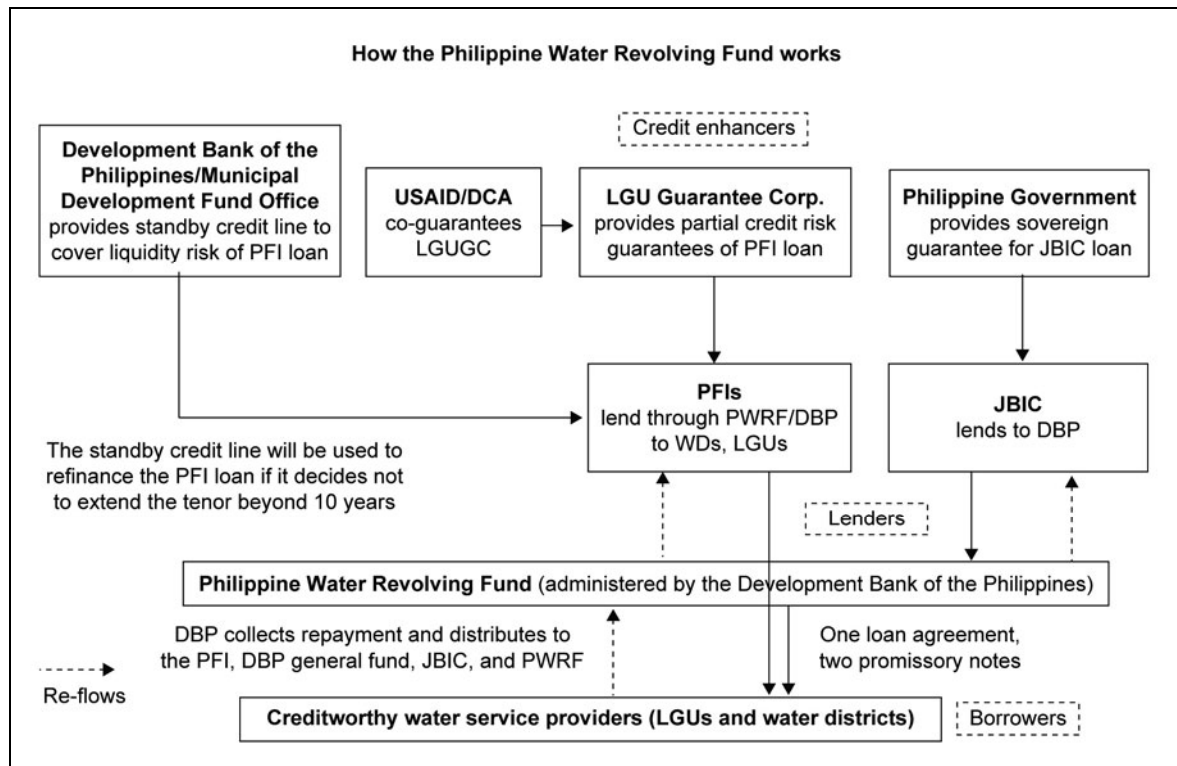
## Structure and Flow of Funds



ULB = Urban local body.

## Annex 6

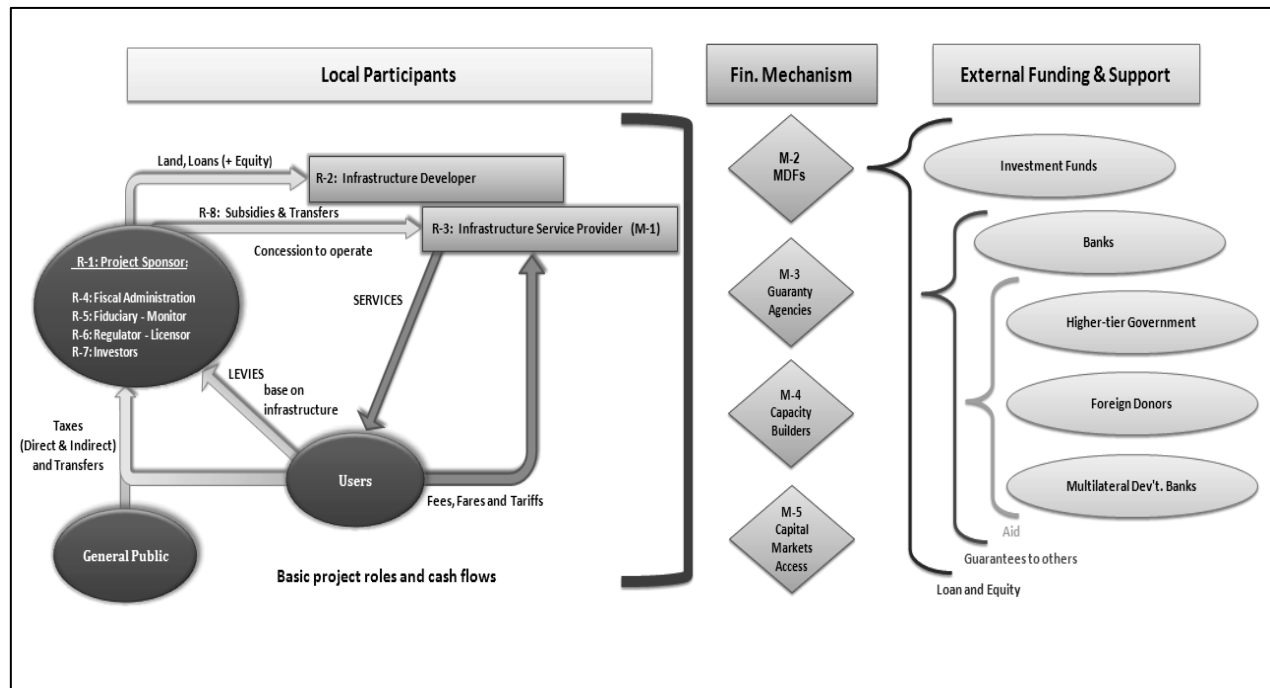
## Water Revolving Fund: The Philippines



DBP = Development Bank of the Philippines, DCA = Development Credit Authority, JBIC = Japan Bank for International Cooperation, LGU = Local government unit, PFI = Private financial institution.

## Annex 7

## ADB Activity Interactions



R = Role, M = Function/Mechanism, M-2 = Financial intermediation or bridging, M-3 = Credit enhancing, M-4 = Capacity building, M-5 = Capital market access.

## Annex 8

## Overview of Subnational Operations in Multi- and Bi-lateral Development Financing Institutions\*

World Bank-IFC	EBRD	EIB	USAID	IADB	KfW	AfD
Technical Assistance	Technical Assistance	Technical Assistance	Technical Assistance	Technical Assistance	Technical Assistance	Technical Assistance
<ul style="list-style-type: none"> <li>• Mostly routed through project loans</li> <li>• Grant funds available under the dedicated multi-donor Subnational Technical Assistance Program to help local governments, publicly-owned utilities, other subnational entities access market based finance without sovereign guarantee by helping:               <ul style="list-style-type: none"> <li>– improve their creditworthiness to access market-based financing (bonds or banks) for infrastructure without sovereign guarantees</li> <li>– obtain or improve credit rating from a recognized rating agency</li> <li>– take measures to enhance their creditworthiness for potential lenders</li> </ul> </li> </ul> <p><b>Sample activities</b> (improving financial controls, developing capital financing plans, improving corporate governance of a public enterprise, obtaining or improving credit rating, developing innovative credit structures, preparing a bond or share issuance, negotiating with lenders)</p>	<p><b>For Banks</b> Funds to upgrade their capacity to appraise municipal infrastructure projects, assess risks and manage portfolios (e.g., making available municipal finance experts)</p> <p><b>For Municipalities</b> Funds for project preparation, loan application and project implementation; improving credit-worthiness; support for tariff changes; support to revenue enhancement/cost control in utility companies</p> <p><b>Strategy</b> Based on long-term client engagement hence, capacity building including, governance, service and financial management improvements are integral part of project design</p> <p><b>Selection of partner banks and municipalities</b> Based on specified criteria</p>	<ul style="list-style-type: none"> <li>• Limited, on need basis for project preparation and implementation; made available as grant</li> </ul>	<ul style="list-style-type: none"> <li>• Provided for programs/projects aimed at increasing the financing of urban services via:               <ul style="list-style-type: none"> <li>– improving overall municipal financial management</li> <li>– improving municipal revenue streams (own-source and transferred)</li> </ul> </li> <li>When appropriate, used for facilitating municipal market-based borrowing</li> </ul> <p><b>Sample activities</b> Financial Institutions Reform and Expansion – (Debt) project, 1993–2010</p> <ul style="list-style-type: none"> <li>– Support to central, state and city governments in the provision of water and sanitation, especially to urban poor, through the identification and structuring of bankable projects and accessing market-based financing</li> </ul>	<ul style="list-style-type: none"> <li>• In 2006, with growing lending to subnational governments, increased lending and technical assistance activities directed toward decentralization and institutional strengthening of subnational governments</li> </ul>	<ul style="list-style-type: none"> <li>• Provided as grants, as accompaniment to investments               <ul style="list-style-type: none"> <li>– for project preparation</li> <li>– technical and institutional strengthening</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Provided mostly via financial intermediation projects in the form of restructuring of local government financing sector, usually including institutional support to municipalities as well as to national-level specialized institutions</li> </ul>

continued on next page

Table continued

World Bank-IFC	EBRD	EIB	USAID	IADB	KfW	AfD
Lending/ Borrowing Assistance	Lending/ Borrowing Assistance	Lending/ Borrowing Assistance	Lending/ Borrowing Assistance	Lending/ Borrowing Assistance	Lending/ Borrowing Assistance	Lending/ Borrowing Assistance
<ul style="list-style-type: none"> <li>Lending to subnational entities not allowed without sovereign guarantee (IBRD); lending to subnationals without sovereign guarantee allowed (IFC)</li> <li>Loans for projects with subnational finance components</li> <li>Credit lines to Municipal Funds to facilitate subnational governments and their entities' access private finance and capital markets (FINDETER–Colombia; TNUDF–India; MUFIS–Czech Republic)</li> </ul> <p><b>Innovative approaches without sovereign guarantee</b> (with IFC)</p> <ul style="list-style-type: none"> <li>WB-IFC Subnational Development Program to provide states, provinces, municipalities, and their enterprises with: <ul style="list-style-type: none"> <li>senior, subordinated and convertible loans</li> <li>partial credit guarantees and risk sharing facilities for bonds, loans</li> <li>equity, quasi equity</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Loans</li> <li>Investment grants for smaller municipalities</li> </ul> <p><b>Grants to:</b> enhance municipal utilities' creditworthiness and operational sustainability during and after project implementation</p> <p><b>Municipal Finance Facility</b> (with EC)</p> <ul style="list-style-type: none"> <li>Develop and stimulate commercial bank lending to small and medium-sized municipalities (SMMs) and their utility companies</li> <li>long-term loans</li> <li>Guarantee/risk sharing i.e., up to certain percent of the partner commercial bank's risk on a portfolio of loans to SMMs</li> <li>Maturity enhancement fee (paid to partner banks at a rate depending on loan tenor; in the event of loan cancellation, prepayment or default within 5 years, partner banks required to repay fee in full)</li> </ul>	<ul style="list-style-type: none"> <li>Focused on member countries, traditionally requiring sovereign guarantee</li> <li>Gradually entering into business with investment grade municipalities and state-owned enterprises/ utilities in non-member developing countries, without sovereign guarantee</li> </ul>	<ul style="list-style-type: none"> <li><i>Development Credit Authority's (DCA)</i> risk-sharing guarantee tool: <ul style="list-style-type: none"> <li>providing partial credit guarantees, generally covering up to 50% of loss on loans made by financial institutions and investors</li> <li>to stimulate lending by financial institutions to lend to creditworthy but underserved borrowers</li> </ul> </li> </ul> <p><b>Sample deployment</b></p> <ul style="list-style-type: none"> <li><b>India:</b> guaranteed the issuance of 2 municipal bonds (Tamil Nadu in 2002; Karnataka in 2003) to raise capital for water and sanitation projects for low-income areas)</li> <li><b>Bulgaria:</b> the guarantee capitalized on legislative changes allowing municipalities to borrow to support better municipal management</li> <li><b>Philippines:</b> credit risk guarantees for lending to creditworthy water service providers under Philippine Water Revolving Fund</li> </ul> <p>Since being established in late 1999, more than 267 DCA PCGs have facilitated over \$2.3 billion of private capital debt financing in more than 64 countries</p>	<ul style="list-style-type: none"> <li>Pilot program for lending to private sector and subnational entities launched in 2004</li> <li>focus on assistance via PCGs to help these entities graduate from central-government channeled loans to making them sufficiently creditworthy to attract private sector finance</li> <li>In 2006, scope of program expanded to include direct lending to subnational entities without sovereign guarantees, whether private, state-owned or of mixed-capital ownership</li> <li>lending criteria include creditworthiness, development impact, sound corporate and fiscal discipline, sound governance and management effectiveness</li> </ul> <p>Lending to subnational governments been a growing part of activities in most borrowing member countries</p>	<ul style="list-style-type: none"> <li>No direct lending to local governments/ subnational entities</li> <li>Long-term loans at preferential rates routed via national government (with state guarantees); grants to LDCs</li> <li>Loans provided for promotion of banks, credit cooperatives and similar institutions (such as MDFs), usually within framework of financial systems development</li> </ul> <p>Loans for financial systems development generally have much longer maturities than the sub-loans they finance, and as long as the return flows from these are not needed for the redemption payments on the loan, they can be re-utilized i.e., like revolving funds</p> <p><b>Sample deployment</b></p> <p><b>India:</b> Line of credit to</p> <ul style="list-style-type: none"> <li>TNUDF to promote private financing for urban environmental infrastructure projects and develop municipal bond market via Master Financing Indenture</li> <li>Orissa Urban Development fund</li> </ul>	<ul style="list-style-type: none"> <li>Direct loans (without sovereign guarantee) to local governments to finance specific investments or support part of an investment budget</li> <li>Loans for financial intermediation</li> <li>direct financial support, via loans and grants, to national institutions on-lending to local governments</li> <li>often provided under co-financing arrangements with other donors to support mechanisms improving local governments' direct access to financial markets and to instruments such as guarantees or credit enhancement</li> </ul>

\* Also refers to *Mainstreaming Non-sovereign Public Sector Financing*. ADB. 2011.

## **Subnational Finance for Infrastructure**

### **Potential Roles and Opportunities for ADB**

This paper discusses how governments can be more effective in using their relatively scarce resources to leverage more private sector financing, particularly as subnationals—local governments and their entities—become increasingly central to the provision of urban infrastructure. This includes catalyzing the participation of domestic sources of finance, including capital markets, if sustainable systems of financing infrastructure are to be developed. The paper discusses the improvements in incentives and instruments, market structures and accountability by all participants, including governments, required to attract such funds and proposes areas for ADB financial and capacity building intervention to support infrastructure financing at the subnational level.

## **About the Asian Development Bank**

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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