Financing Strategies for Urban Infrastructure: Trends and Challenges[1]

Presentation

I. Introduction

1. It is my great pleasure to be here for the opening session of this conference where so many stakeholders – the Government (central, state and local), the financiers, the rating agencies and the academia – have come together to deliberate on an important subject that is fast gaining significance. I am thankful to the Centre for Advanced Financial Research and Learning (CAFRAL) and, in particular Smt. Usha Thorat, Director, CAFRAL for taking this initiative and giving me this opportunity to deliver the inaugural address. There is no doubt that urbanization is increasing at a rapid pace, every year, everyday and every moment. And if at all, India and Indian cities have to cope up with the pace of urbanization and support the high growth momentum in the medium to long run, we will have to address the various challenges linked to provision of quality public services in our urban centres to ensure sufficient and sustainable funding for the same.

2. Even though urban infrastructure financing does not directly concern Reserve Bank except for prescribing the prudential and foreign exchange management related regulations for infrastructure financing including for the urban infrastructure, it has on its own initiative taken active interest in sensitizing the market on the need for addressing the funding requirements of the Urban Local Bodies (ULBs). The Reserve Bank being the banker and the debt manager to the state governments organizes a meeting of all the State Finance Secretaries on an annual basis to discuss issues which are relevant for the State's overall fiscal position; often issues related to municipal finances have also been discussed. In addition, the Reserve Bank at the behest of the Thirteenth Finance Commission (ThFC) had undertaken a Development Research Group (DRG) study (Pethe *et al*, 2009) on the issue of strengthening federal decentralization that essentially provided a micro design of grants for local bodies (both urban and local) and their devolution across the States. This was later mimicked to some extent by theThFC. At the instance of the Reserve Bank, the first ever comprehensive study on "Municipal Finance in India – An Assessment", (Mohanty *et al*. 2007) was also undertaken and the study had made some important policy recommendations. This study was also presented before the ThFC.

3. For today's presentation, I would like to start by giving a brief overview on the importance of urbanization in the context of overall growth and the size of investment that is required to fund the urban infrastructure services (section II). Then I would briefly deal with the existing private financing strategies for urban infrastructure – both debt and equity – along with the associated issues (section III). This will be followed by section IV that would essentially list the various urban infrastructure financing

[1]Inaugural address delivered by Shri. Harun R Khan, Deputy Governor at the Conference on Financing Strategies for Urban Infrastructure organized by the Centre for Advanced Financial Research and Learning (CAFRAL) on July 18, 2013 at Mumbai. The speaker acknowledges the contributions of Sangita Misra, Anoop K Suresh and Surajit Bose of Reserve Bank of India.

institutions. In section V, I would touch upon various challenges and strategies in financing urban infrastructure, followed by the concluding remarks in section VI.

II. Urbanisation: The Current Pace and the Future Needs

4. Presently, India is at the cusp of rapid urbanisation and the extent of urbanisation is accelerating at a rapid pace. Census data 2011 reveals that about 31 per cent (377 million) of Indian population live in urban areas. The share of persons living in urban areas rose by 3.35 per cent in the decade 2001 to 2011 as against only 2.10 per cent in the decade 1991 to 2001. In the coming years, the intensity of India's urbanization will be immense. As against one state currently (Tamil Nadu), about 5 states are going to be more than 50 per cent urbanized by 2030 as per Mc Kinsey estimates (2010). The process of urbanization in India is mostly characterized by dramatic increase in the number of large cities. In 1951, there were only five metropolitan cities (with population of over 1 million), i.e., Kolkata, Mumbai, Chennai, Hyderabad, and Delhi. Their number increased to 12 in 1981, 35 in 2001 and 53 in 2011 and is further expected to be about 68 in 2030. At least two of them (Mumbai and Delhi) will be among the five largest cities in the world by 2030. In terms of both population and GDP, many Indian cities will become larger than many countries today. For instance, Mumbai Metropolitan Region's GDP is projected to reach US$ 265 billion by 2030, larger than the GDP of many countries today, including Portugal, Colombia, and Malaysia. In parallel many smaller towns are growing faster than mega cities and Tier 2 cities adding more private sector jobs than the metropolises, partly due to higher size of informal sector and lower real estate prices (Gupta, 2013). Urban areas, in general have emerged as huge magnets for jobs. Work force added in urban areas has grown at 44 per cent during 2001-11 over the previous decade as against 12 per cent in rural areas over the same period.

5. Urbanization in India has become an irreversible process, and an important determinant of national economic growth and poverty reduction. Urbanisation and growth are infact two-way linked. While urbanisation is an inevitable outcome of the faster rates of growth, it is also a process that leads to growth. It is quite evident from the urbanization pattern in India that the rate of development is clearly related to the rate of urbanization. Generally, states with higher gross state domestic product (GSDP) have higher levels of urban population. Advanced states in India, such as, Gujarat, Maharashtra, Tamil Nadu and Karnataka are significantly more urbanized than Bihar, Odisha and Assam. Looking at the urban sector's contribution to GDP, it has risen from about 38 per cent in 1970-71 to 63 per cent in 2009-10 and around 70 per cent at present while employing only 27 per cent of the work force. The top 100 large cities in India produce 42 per cent of GDP with 16 per cent population and just 0.24 per cent of land area. In the coming decades, the urban sector will play a more critical role in the structural transformation of the Indian economy and in sustaining the high rates of economic growth.

6. Hence, it is crucial that India's urban sector and the cities provide quality infrastructure and services at affordable costs. This would be essential to give a competitive edge to the economic activities these cities host so as to realise India's full

growth potential. It is imperative that urbanisation has to be central to India's strategy of achieving faster and more inclusive growth because as economic activities and habitations get clustered in and around urban areas, it stimulates economic efficiencies while simultaneously providing more employment opportunities. Urbanisation facilitates greater entrepreneurship and more productive employment as compared with what is possible in rural areas. It, thereby, enables faster inclusion of more people in the process of economic growth. The rural-urban linkages in India are really strong and realization of the potential of urbanisation can accelerate the rural sector also. Increased urbanisation leads to greater demand for products of rural areas and larger remittances from cities to villages. There is enough evidence to suggest that rising standards of living in India's urban areas in the post-reform period have also positively impacted the rural economy.

7. For sustaining this fast pace of urbanisation, apart from generating adequate employment opportunities, what is urgently required is improving the service delivery of civic amenities. This is all the more critical considering that the cities and towns of India are visibly deficient at present in providing quality services even to the existing population. For example, as per 2011 census only 70.6 per cent of urban population are covered by individual connections for water supply. Duration of water supply in Indian cities ranges from one to six hours. As per the 12th Plan estimates, public transport accounts for only 27 per cent of urban transport in India. Even a partial sewerage network is absent in 4861 cities and towns in India. The Technical Group on the Estimation of Housing Shortage of the Ministry of Housing and Urban Poverty Alleviation (Chairman: Amitav Kundu, 2006) has projected the total shortage of dwelling units in urban areas in 2012 to be 18.78 million.

8. Urbanisation being efficient and potentially job-creating, India needs to fully leverage the economic opportunity of urbanization. Such leveraging would, however, be dependent on planned and properly guided urbanization. Bad strains of unplanned urbanization were seen in the 1980s/1990s in some of the Latin American countries where rapid urbanization without a corresponding stepping up of infrastructure construction had led to a steep deterioration in quality of life. India is facing a similar challenge. Accordingly, the ability to manage urbanisation and prepare cities for their new role is one of the major issues facing India's planners today. The growth momentum cannot be sustained if urbanisation is not accommodated and facilitated. The cities of India will have to provide a receptive environment for innovation and productivity enhancement which can foster faster growth of the Indian economy and make room for large migration from rural areas to higher-productive sectors in urban areas. For all this, a comprehensive framework of urban policy and planning associated with a significant step up in investment in urban areas is needed.

9. Given this massive requirement for the urban sector, one needs to examine whether all the stakeholders are in a position to deliver the desired outcomes.. Here I would like to focus rather narrowly on one critical aspect, i.e., finance. The size of the municipal fiscal sector in India is very small, especially in relation to the public services these bodies are mandated to deliver and also as compared to many developing

nations. The total municipal revenue in India accounts for about 0.75 per cent of the country's GDP as against a figure of 4.5 per cent for Poland, 5 per cent for Brazil and 6 per cent for South Africa. In terms of both revenue and expenditure, the ULBs account for only about two to three per cent of the combined revenue and expenditure of Central Government, State Governments and ULBs. This is in contrast to the situation in advanced countries where local bodies normally account for 20 to35 per cent of the total government expenditure. As per McKinsey estimates (2010), India spends only US$17 per capita annually on urban capital investment as compared with US$116 per capita in China, US$127 in South Africa and US$391 in the United Kingdom. Furthermore, there are significant differences across Tier 1 to Tier 4 cities. Of this small share of urban investment that India undertakes, contribution of debt and private-sector financial participation is even miniscule. Traditionally they have contributed less than 5 per cent of overall urban investment although for specific metro projects at times the share remains very high.

10. Based on the extent of urbanization and the basic service standard norms and correcting for the service deficiencies in Indian cities, studies have estimated the likely investment requirements for urban infrastructure. Let me mention a few. The McKinsey Study (2010) on Indian urbanization projects a capital investment need of US$ 1.2 trillion over the 20- year period 2011-2030 with the majority of capital spending in cities to go to transportation and affordable housing. At this rate, India has to boost its annual per capita urban capital spending eightfold from US$17 to US$134. The Report of the High Powered Expert Committee (HPEC) on Indian Urban Infrastructure and Services (Chairperson:Isher Judge Ahluwalia, 2011) projects investment for urban infrastructure over the 20-year period from 2012 to 2031 at ₹ 39,200 billion (about US$ 870 billion). Given the gross neglect of the urban sector in the past and the resultant service deficiencies in Indian cities, the HPEC estimates that approximately one-third of the total investment is required to address the unmet demand for these services. Even at this high projected rate of investment, by 2021 (till 2030), annual investment will amount to 1.14 per cent of GDP, up from the current 0.7 per cent of GDP[2]. While all these projections of urban financing needs differ among various analysts, the crux is that financing needs are huge in the coming years and a large part of investment in the coming decades has to be incurred to compensate for the cumulative gap of urban service delivery over the past so many years.

III. Current Private Financing Strategies and Issues

11. Traditionally urban infrastructure has generally been financed either through budgetary allocations or through ULBs' own internal revenue generation. However, with public funds falling short of urban sector's investment requirements, ULBs have looked for alternative private sources of financing. On the debt side, these include issuing municipal bonds, pooled finance mechanism as well as term loans. On the equity side, emphasis has been on Public Private Partnerships (PPPs), both to obtain the finance as well as to improve delivery methods.

[2]McKinsey estimates aim at increasing urban infrastructure spending from an average of 0.7 per cent of GDP annually today to about 2 percent of GDP a year in 2030.

Municipal Bonds

12. Many developed and developing countries have relied extensively on municipal bond market. In particular, the US has been the world's largest market for municipal securities. In 2011, there were about one million different municipal bonds outstanding and they totalled USD 3.7 trillion. Though the issuances slowed down post global financial crisis, mainly due to sharp decline in the credit rating of municipal bond insurers who had incurred heavy losses in CDOs/other structured products, they appeared to have rebounded in 2010 (US Securities and Exchange Commission, 2012). In contrast, the municipal bond market in India, albeit more than a decade and a half old, is still in a nascent stage. Bangalore Mahanagara Palike was the first ULB to have raised resources through private placement of municipal bonds in 1997 and Ahmadabad Municipal Corporation was the first to make a public offering in 1998. It was also the first municipal bond without a state government guarantee. Since 1997, only 28 municipal bond issues have taken place in India, which have included taxable and tax-free bonds and pooled financing issues, mobilizing funds to the tune of nearly ₹ 30 billion. Most of these have been private placements rather than public offers. A look at the trend in the value of municipal bond issues since 1997 suggests that the value of municipal bond issuances that were on a rise till 2005 has seen a sharp fall since then and there has been very few issuances since 2007 and practically no issue after 2010. The most preferred pattern has been tax free bonds (close to 50 per cent of municipal bonds, both in number as well as value), followed by taxable municipal bonds and, lastly, pooled finance bonds. The tenors of the issues have varied, being mostly in the range of five to 10 years; project-specific pooled issues have had a tenor of 15 years. The subscribers mainly include banks, corporations, individuals, companies, trusts, funds, associations, Financial Institutions (FIs) and non-resident Indians. Majority of the municipal bond issues have been used to fund water supply and sewerage projects followed by road works. This is possibly because user charges or tariffs in such infrastructure projects are easier to enforce and the amount and frequency of expected revenues can be predicted reasonably.

13. The size of the municipal bond market today is limited and distributed over a few strong municipalities of Ahmedabad, Nasik, Nagpur, etc. On the positive side, most of the municipal bonds issued so far were not backed by government guarantee proving that local governments can access the capital market to finance efficient delivery of civic services. It may be noted that despite urban local bodies having weak finances in India, none of the municipal bond issues have defaulted in repayment to date. Also, as part of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Government of India has also taken initiatives to promote this route via assigning credit ratings on a regular basis for municipal corporations and municipal councils for the 65 JNNURM cities. The credit ratings released by the Union Ministry of Urban Development as on November 2012 suggested that 36 (around 55 per cent) of them were found to be in the investment grade. Very few ULBs, however, appear to be planning for market borrowing as a source of finance for them. Under the City Development Plans submitted under JNNURM, only about one-third of them intend to raise funds through market borrowing as part of their investment plans. This indicates that although bond financing is feasible

for ULBs there are constraints affecting both the supply as well as demand for capital (Vaidya, 2009; Pradhan, 2006).The possible reasons are as follows:

(i) Even after having investment grade ratings, ULBs do not have easy and cheap access to finance as they are still considered to be riskier than the corporates with same rating. Development of municipal bond market is significantly linked to the financial position of states as most of the ULBs largely depend upon the devolution of resources and grants from the State governments. In case the financial position of States is not perceived to be sustainable, it may lead to unpredictability of transfers from State governments to ULBs and hence may impact outlook of financial position of ULBs. In other words, credit rating of an ULB to a large extent depends on the State's financial position.

(ii) The budgeting and accounting systems of ULBs still lack transparency, except in a few big ULBs. This leaves scope for misappropriation of assets and misleading picture of income and expenditure of ULBs. This also affects rating process of rating agencies.

(iii) Another key issue is liquidity of the secondary bond market to trade municipal bonds in India. An active secondary trading market is almost non-existent in India.

(iv) It has been observed from the experience of bond issuances by ULBs that due to poor project evaluation and lack of specialized project management support, ULBs have not been able to use the mobilised resources through bonds effectively. Some such municipalities include Ahmedabad and Nashik. These inadequacies, in terms of financial as well as physical planning, lead to high cost of capital for ULBs and, thus, losses arising out of interest payments.

(v) There is no specific statute which governs the insolvency aspect of ULBs like the corporates. Thus, an absence of well-defined legal remedy against ULBs might be deterring the investors to subscribe to municipal bonds (World Bank, 2011; Chattopadhayay, 2006).

14. Thus, on the whole, municipal bonds have so far played a limited role as a source of finance for funding urban infrastructure projects. In India, just one per cent of the total ULB contribution is funded by municipal bonds as against about 10 per cent in the United States. Most emerging market economies (EMEs) have also attempted to establish functioning municipal bond market by strengthening capital markets as well as promoting efficient management of local governments. It is, however, relevant to note that development of municipal bond market has taken a long time in most of these countries. It had taken USA about 100 years to develop a bond market. Hence, instead of getting discouraged, efforts should continue in removing the roadblocks to developing an efficient municipal bond market in India.

Pooled Finance

15. The idea behind pooled finance is that since small and medium ULBs are not able to access capital markets directly on the strength of their own balance sheets, and the cost of transactions also act as a barrier, pooled financing mechanisms can play an important role. These encourage, on the one hand, state governments and mid- to small-sized ULBs to pool their projects together to achieve a marketable size of the pooled bond issuance and, on the other hand, create a risk mitigated environment for the capital and financial markets at large, providing them a good avenue to invest in the development of urban infrastructure of the towns and cities. It reduces the interest cost as each individual borrower (here, the ULBs) has access to the capital market at a much lower interest rate than it would have otherwise got if it had borrowed on its own. Such bonds also get higher ratings than those of the underlying borrowers due to pool diversity.

16. Its usage, however, has been low so far. Only Tamil Nadu and Karnataka have issued municipal bonds by pooling municipalities. In 2003, the Tamil Nadu Urban Development Fund issued a bond through a special purpose vehicle (SPV), the Water and Sanitation Pooled Fund, by pooling 14 municipalities for commercially viable water and sewerage infrastructure projects. Similarly, the Government of Karnataka used the concept of pooled financing to raise debt from investors for the Greater Bangalore Water Supply and Sewerage Project. A debt fund called the Karnataka Water and Sanitation Pooled Fund was established in 2005 for the purpose.

17. The success of the pooled finance model as demonstrated in the States of Tamil Nadu and Karnataka subsequently led the Government of India to create a central fund that enables capital investments to be pooled under one state borrowing umbrella in order to reap the benefits of economies of scale. Thus, the Pooled Finance Development Fund (PFDF) Scheme was set up by the Government of India's Ministry of Urban Development so as to enable ULBs to access market borrowings through state-level pooled mechanism as also to reduce the cost of borrowing to local bodies with appropriate credit enhancement measures.

18. The pooled financing mechanism has, however, not truly picked up in India after the initial success of Tamil Nadu and Karnataka. Even the PFDF has not been very popular. Tamil Nadu had planned tax free bonds under PFDF in 2008, but it did not get good response and was significantly undersubscribed. Subsequent to this, this scheme remains in standstill. There is need to address the various pending issues related to pooled financing, such as, legislative sanctions, streamlining approval process, addressing data gaps and establishment of Urban Infrastructure Funds to expand the use of pooled bond issues. Making the maximum possible use of pooled financing could be the cutting edge of municipal finance in the coming years.

PPP in Urban Infrastructure

19. Another important way to finance urban infrastructure has been to rope in the private sector through public private partnerships (PPPs). PPP in urban infrastructure has tremendous potential, particularly in sectors like water supply and sewerage, solid waste management and urban housing and transport. PPPs are essentially structured around a robust revenue model (including user charges, targeted subsidies, and viability gap funding) and, thus, generally provide better return prospects on risk capital. A very important aspect of PPP, albeit less relevant from financing angle, is that they can serve as an important instrument for enhancing efficiency in the delivery of urban services. Also, when long term maintenance is included as part of obligation of private partner, it brings with it an element of sustainability into the operation. On the whole, PPPs have the potential to contribute to systemic gains and better management of urban services. As per the 12th Plan estimates about 13–23 per cent of the total investment requirement in urban sector can potentially come through PPPs. This would roughly translate to about 250–300 PPP projects in urban sector each year.

20. PPPs in the urban sector in India are, however, few in number. A few of them are in the water supply and sewerage projects. Experience has also been quite mixed. With regard to water supply system through PPP while the Pune Municipal Corporation's attempt failed to take off, it has been a success in the cities of Karnataka (Belgaum, Gulbarga and Hubli-Dharwad) and Nagpur. The 24x7 water supply project of Karnataka and that of Nagpur have ensured significantly better water supply situation along with considerable improvement in revenue generation from water supply. Both involved a number of governance reforms and tariff increases on the part of the public bodies and efficiency gains from the private sector. Of late, water sector PPP projects are increasingly focusing on distribution improvements and the emphasis is as much on service enhancement as on capital infusion from the private sector.

21. Some municipal bodies have also successfully implemented private sector participation in solid waste management. Cities like Surat and Rajkot have been successful in processing solid waste under PPP into bio-fertilisers, green coal, eco bricks, etc. It has, however, not always been a smooth journey. Municipal solid waste-based power plants under PPP scheme have also faced several problems in other cities like Lucknow.

22. In urban transport, areas where PPP model has been followed extensively are the Metro Rail Projects, running of modern city bus service in Indore, Bhopal, Jabalpur, Kota, Jodhpur, Jalandhar and Patiala, BRTS (Bus Rapid Transit System) in cities like Ahmedabad and overall development and modernization of bus terminal and parking lots, foot-over-bridges and road signage in several other cities. There are good examples of transport led planning for regional growth under Urban Road Projects developed on PPP basis. These include the Hyderabad outer ring road, Delhi-Noida Toll Bridge, Mumbai Trans Harbour Sea Link Project, Delhi-Gurgaon Expressway, etc. Looking at the Metro rail, nature and extent of involvement of private sector has varied across cities. For example, while Mumbai metro (first phase) is based on PPP (BOT)

mode, Hyderabad is based on PPP (DBFOT)[3] while Delhi, Chennai, Kolkata, Bangaluru are mostly government initiatives with involvement of private sector being minimal to the extent that it enhances efficiency. Thus, as can be seen notwithstanding several problems, some cities either at the behest of the ULB or the state have taken the initiative or placed before us good examples of urban planning and development under the PPP mode. These need to be emulated by the rest of the country.

23. There are some challenges, which are generally highlighted, for the overall success of PPP in urban infrastructure in India. First, the commercial non-viability of projects that acts as a major deterrent to the entry of private firms. Very few projects are financially sustainable on the basis of user fee alone. Particularly in the field of water supply and sewerage, the low user charges make water supply and sewerage projects non-bankable given that such projects require general revenue support even for operations and maintenance. Second, the relatively smaller size/value of projects as compared with big infra projects in power, roads, telecom also makes some of these projects unattractive for private companies. Third, is the inability of ULBs to generate a strong internal revenue base. Very often private money is thought to be a substitute for weak local body finances.

Linkages with Jawaharlal Nehru National Urban Renewal Mission (JNNURM)

24. Jawaharlal Nehru National Urban Renewal Mission (JNNURM) is a massive city-modernisation scheme launched by the Government of India under the Ministry of Urban Development in 2005 for a seven-year period up to March 2012, later extended to March 2014. JNNURM envisages government funding to be used as an explicit catalyst for private investment in infrastructure. The funds for the programme are channelled through state-level agencies, where grants from the central and state governments are pooled and passed on as grants or soft loans to cities provided that they have prepared sustainable development strategies and the investments identified fit into these strategies. The share of grant funding by the central government varies from 35 per cent in the larger cities to up to 90 per cent in cities in the North-Eastern region. Capacity building is also included in the mission so as to assist urban local bodies to prepare strategies and bankable projects.

25. With the launch of the reform-driven and part-grant financed JNNURM scheme, both the macro-environment as well as project-level micro environment has become more and more congenial for PPPs in the urban sector. JNNURM has led to a significant step up in private investment in Indian urban sector through the PPP mode. About forty-nine projects in sectors like solid waste management, water supply, sewage and urban transport have been taken up under PPP framework since 2005 with private sector contributing about one-fifth of the overall investment.

26. Many of the JNNURM-supported reforms are expected to create favourable governance and institutional framework for private sector to feel more confident to venture into the urban sector.**,** To encourage more PPPs, it is, however, important to

[3] BOT stands for Build, Operate& Transfer and DBFOT stands for Design, Build, Finance, Operate and Transfer.

develop bankable or financially-sustainable models at a project level. After a project is started, there is a need to reduce delays in project implementation due to various regulatory approvals, land acquisition issues, etc. A frequently expressed criticism of JNNURM has been that the large numbers of projects were executed through parastatals. As a result, ULBs, which are the main institutions under the Constitution for participatory governance at ground level, have remained marginalised. Lack of participatory process has reduced the ownership of programmes by people. Against this backdrop, under the 12th Five Year Plan the government has come up with JNNURM-II that emphasises on People Public Private Partnerships (PPPP). Further, JNNURM II will be extended to all cities as against only “Mission city” approach of JNNURM-I.

External Commercial Borrowings (ECB)

27. Another route for financing urban infrastructure is the External Commercial Borrowings**.** Under the extant ECB guidelines, urban infrastructure includes water supply, sanitation and sewage projects. The definition of urban infrastructure, under the ECB guidelines is, however, under revision currently and is being expanded to bring it in line with the Government of India’s harmonized list. This would expand the list to include: (a) urban public transport and (b) water and sanitation which will include (i) water supply pipelines, (ii) solid waste management, (iii) water treatment plants, (iv) sewage projects (sewage collection, treatment and disposal system), and (vi) storm water drainage system. At present, a large part of the ECBs (about 40-45 per cent) has been channelled to the infrastructure sector. With this expanded list, there is greater scope for ULBs to access foreign funds through bankable PPP projects and avail of the concessions that have been prescribed for infrastructure sector including urban infrastructure. There is, however, a need to adopt a cautious approach with respect to external financing as infrastructure in general and, urban infrastructure in particular, do not generate matching foreign exchange earnings and foreign financing brings with it huge costs in terms of exchange rate volatility. The risks involved in terms of unhedged exposure, maturity mismatch, etc. have to be rigorously evaluated before accessing external finance.

IV. Urban Infrastructure Financing Institutions

28. Financing institutions that cater to the needs of the urban infrastructure by extending term loans and investing in their issues include Government Institutions like Housing & Urban Development Corporation limited (HUDCO), Life Insurance Corporation of India (LIC), banks and other specialised infrastructure finance entities like India Infrastructure Finance Company Limited (IIFCL), Infrastructure development Finance company Ltd (IDFC), Infrastructure Leasing and Financial Services Ltd (IL&FS). Term lending today is an important means to finance infrastructure development because of the relative ease vis-a-vis issuing bonds. Term lending to ULBs, however, remains rather modest. HUDCO and LIC have been important lenders though they are now withdrawing from municipal lending market. HUDCO and LIC were mandated by the Government of India to lend a certain amount to specific sectors including the urban sector. Overtime, due to various reasons, lending to urban

infrastructure projects has, however, taken a back seat with HUDCO's lending to urban infrastructure sector accounting for only about 20 per cent of its overall lending. Problem essentially lies with lack of good projects in urban infrastructure and the diminishing ability to extend state government guarantee as a security in supporting the borrowing agencies like ULBs, Water Supply and Sewerage Boards . Fiscal pressure on state governments, particularly after enactments of fiscal responsibility legislations, has also forced them to reduce explicit state guarantees for municipal borrowing. Consequently, HUDCO's lending is skewed towards the energy and large commercial projects since 2002. LIC's liabilities being long term is also best suited to lend to urban infrastructure. Its exposure as loans and advances to various entities for infrastructure and social purpose projects engaged in water and sewerage sub-sector has, however, been less than even one per cent mainly due to recovery problems. Lending by scheduled commercial banks had shown some growth though that also seems to have stagnated in the last few years.

29. Specialized infrastructure financing like IIFCL, IDFC and IL&FS have some exposures to ULBs. Most of these agencies have shown preference to lend to SPVs and private infrastructure providers and not directly to ULBs unless it is through special intermediation mechanisms, such as, Pooled Municipal Debt Obligation (PMDO) credit facility. One important contribution of IL&FS in addition to supporting several urban-infra projects have been the setting up of the Pan-India facility for financing urban infrastructure, the PMDO Facility. IL&FS, in partnership with IDBI, IIFCL, Canara Bank and leading domestic banks, launched this ₹30 billion PMDO Facility in 2008. The projects include development of common infrastructure for Small and Medium Enterprises (SMEs), solid waste management, power generation, waste water treatment and other urban infrastructure facilities, such as, city bus transport. The PMDO facility is instrumental for structuring requirement of resources for projects in a bankable format and providing credit for setting up mandated projects at reasonable rate of interest.

30. In addition, there have been state specific initiatives to generate funds. For example, the Tamil Nadu Urban Development Fund (TNUDF) is the first Public Private Partnership between the government of Tamil Nadu and three financial institutions (ICICI, HDFC, and IL&FS) for providing long term debt for civic infrastructure in a non-guaranteed mode.

31. Some of the multilateral institutions like Asian Development Bank (ADB), World Bank have also financially supported some of the urban infrastructure development initiatives in the recent period. For example, ADB has funded the Bangalore Metro rail project and is currently funding North- Eastern Region Urban Development Program. The TNUDF has also garnered the World Bank assistance of US$300 million in the form of capital grants and loans to ULBs. Besides, some of these institutions are also providing assistance for capacity building for urban development under JNNURM.

32. On the whole, ULBs have not been able to project themselves as attractive customers for term lending institutions. As observed by World Bank (2011), underpinned by attenuated service delivery accountabilities deriving from the

fragmented nature of the local government institutional structure in India, ULBs have been reluctant to engage constructively with the lenders. Besides, they at times lack the requisite expertise for effective engagement with lenders. On the lender side, this is matched by a negative perception that municipal sector is small, opaque and risky relative to other sectors. Hence, it is imperative to make systemic efforts to address the concerns of both the borrowers and the lenders.

33. I would now like to deal with the regulatory issues related to bank financing in some detail as it concerns the Reserve Bank directly.

Banking Institutions

34. Recognising the importance of infrastructural development in the country, the Reserve Bank has provided certain concessions/relaxations with regard to lending to infrastructure sector, such as, enhancement in single/group borrower limits, permission to issue guarantees favouring other lending institutions in respect of infrastructure projects, asset classification benefits under our restructuring guidelines, permission to extend finance for funding promoter's equity subject to certain conditions . In order to encourage lending by banks to the infrastructure, banks are permitted to finance SPVs, registered under the Companies Act, set up for financing infrastructure projects on ensuring that these loans / investments are not used for financing the budget of State Governments[4]. RBI in a recent circular (March 18, 2013) has allowed the debts due to the lenders in case of PPP projects to be considered as secured to the extent assured by the project authority in terms of the Concession Agreement, subject to certain conditions.

35. While all these regulations are applicable to infrastructure sector in general, urban infrastructure sector[5] can also take the advantage of the relaxation in norms, particularly through the SPV route. RBI does not prohibit direct lending to ULBs but any such lending to ULBs must be for specific monitorable projects run on commercial lines and the repayment of the term finance should be made out of income to be generated by the project and not out of transfers, made available to it by the Government. Projects funded out of budgetary resources, or where a firm commitment for such budgetary support has been made and is in operation, should not be financed by banks. Bank finance could, however, supplement the budgetary resources if it was contemplated in the project design. The underlying principle by banks and financial institutions should ensure that such loans/investments are not used for financing the budgets of the State Governments.

36. Currently, however, the scope for incremental financing by banks to infrastructure sector is limited. The single borrower and group borrower limits for banks in India are

---

[4] Further, the promoters' shares in the SPV of an infrastructure project pledged to the lending bank are permitted to be excluded from the banks' capital market exposure.

[5] As per revised/latest infrastructure lending circular, the definition of urban infrastructure is taken to include the following sectors/sub-sectors: (a) urban public transport and (b) Water and sanitation which will include (i) water supply pipelines, (ii) solid waste management, (iii) water treatment plants, (iv) sewage projects (sewage collection, treatment and disposal system), and (vi) storm water drainage system.

already high in comparison to international standards, in view of the need for large financing needs of the infrastructure sector. Any further increase in exposure limits would lead to higher concentration and asset-liability mismatch risks for banks. Recognising this, the Reserve Bank has permitted banks to enter into takeout financing arrangement with IDFC/other FIs and has allowed refinancing through Infrastructure Debt Funds (IDFs).

37. There is also a demand from certain sections to grant Statutory Liquidity Ratio (SLR) status to urban infra-bonds so as to attract banking sector investment. The securities prescribed for the purpose of SLR are highly liquid and useful at the time of stress/liquidity problems of the banks. It is essential that these securities are of high quality collateral nature so as to protect the Reserve Bank's balance sheet from credit risk and speed up the disbursement of assistance without detailed assessment of the security since time is the essence in such situations. While there is no credit risk to the RBI balance sheet in accepting Government securities (as collateral) since these are sovereign securities, for any other security there is an associated credit risk as well as liquidity risk. In the past, there were instances when Government undertakings were not able to redeem the securities issued by them on maturities even though the securities were guaranteed by the Central Government. Since Reserve Bank cannot afford such credit risk for its assets, the securities issued under the approved market borrowing programme is only given SLR status. This also avoids a situation in which both categories of bonds would compete with each other for the limited investible resources in the economy, exerting an upward pressure on interest rate for market borrowings of the Government. For the aforesaid reasons, SLR status has not been accorded to various other securities/bonds, such as, Oil Bonds, Power Bonds which were entirely owned by the Government of India and thus, fully guaranteed by the Government.

V. Challenges and Strategies in Financing Urban Infrastructure

Enhancing Own Resource Mobilisation Capacity

38. Without underplaying the important role that private sector can play in funding infrastructure, let me also highlight the general consensus that has developed in this regard that financing urban sector expenditures cannot be analysed independently of the ULBs own revenue position. A strong revenue position is required for the ULB not only for its own sake but also to attract private investment. This results in an improvement in 'municipal credit worthiness' and so far this has been a very important, rather most important factor, that has enabled municipalities to access the bond market and attract private investors. In many cases, ULBs have not been able to attract external finance mainly because of the precarious state of their own finances and poor governance. Cross country analysis also shows that a large part of the urban funding, (more than 80 per cent) comes from two main sources: (i) user charges and municipal taxes (such as, property tax) and (ii) intergovernmental transfers. Share of debt financing, public private partnerships and land monetization in total urban funding varies from just

6 per cent in New York to 13 per cent in London to 18 per cent in Shanghai[6]. It is against this backdrop that it becomes imperative that Indian ULBs enhance their resource mobilisation capacity in terms of taxes and other revenues that are already assigned to them.

39. For private investors to evince the interest in urban infrastructure and municipal bonds, it is necessary to enhance the ability of ULBs to have consistent revenues so that their bonds are seen as almost completely free from default risk. There is a particular need for focusing on maximization of revenues from property taxes and user charges. 'Users pay', 'beneficiaries pay' and 'polluters pay' are the cornerstones of local public finance as suggested by theory as well as practice[7]. They must be fully made use of through scientific ways of identifying tax base (Mohanty *et al*, 2007). It is desirable that services like water supply, which can be measured and for which beneficiaries can be identified without incurring a huge cost, are financed through user charges. One should not underestimate this source of revenue. In fact, experience shows that user charges could actually contribute to meeting the capital investment in a big way[8]. Under the JNNURM-I that had insisted on 100 per cent recovery of operation and maintenance (O&M) costs by way of user charge collections, while many could not reach that level, some municipalities in Tamil Nadu (viz., Porur, Tambaram and Madurai) have proved that cost recovery could be as high as 300 to 400 per cent, leading to recovery of the capital expenditure too, besides the O&M charges. Hence, it is necessary to try and improve user-charge collections to recover at least O&M expenditure on water, sewage, mass transit, and affordable housing.

40. Estimates suggest that India collects only an estimated 0.04 to 0.08 per cent of property values as property taxes—one of the lowest rates in the world. Some cities, including Bangalore and Delhi, have moved toward better assessment of property taxes. It is understood Ahmadabad and Hyderabad are also working towards it but there is still a long way to go before India can maximize its use of this type of revenue. It is, thus, necessary for all cities to try and exploit this source.

State Fiscal Position and Intergovernmental Transfers

41. Even though an urban local body based on its good fiscal credentials gets a good rating, it may not be able to attract private investors if the concerned state government's fiscal and financial position is perceived to be weak. Based on the model of Anglo-Saxon countries like the United Kingdom and Australia, the Indian urban public finance in India is also significantly dependent upon intergovernmental transfers. Most of the ULBs significantly depend upon the devolution of resources and grants from the State governments in addition to their 'own' and 'shared' revenues. This has two contradictory implications. First, in case the financial position of States is not sustainable, it may lead

---

[6]Even the 12th Plan projections indicate that about 85 per cent of the urban infrastructure requirements during the Plan period has to come from the own resources/centre/states.

[7] British Columbia, Canada presents a good example of successful implementation of the 'polluters pay' principle.

[8] There is a visible trend in the developed countries towards more effective utilisation of user charges and benefit taxes by local governments due to citizens' preference for them over general taxes.

to unpredictability of transfers from State governments to ULBs and hence may impact outlook of financial position of ULBs. This is more so in the current framework when most of the states are committed to reducing fiscal deficit as per their Fiscal Responsibility Acts. Second, it is generally alleged that the present system of inter-governmental transfers to ULBs is *ad hoc* whereby transfers often bail out the incompetent and the irresponsible ULBs. In the kind of federal framework that we have in India, inter-governmental transfers will remain an integral part of solving the vertical imbalance in the assignment of responsibilities and fiscal powers between centre, state and local bodies. Hence, there is a need for establishing/strengthening and effective functioning of State Finance Commissions (SFCs) by all States and efforts should be made to have well laid down performance- linked transfers policies that are more objective, transparent and predictable so as to bridge the fiscal gap of ULBs without creating any kind of moral hazard. The Thirteenth Finance Commission (ThFC) has taken some steps in this regard by linking devolution of funds to implementation of reforms by ULBs[9]. A couple of states do qualify for such performance grants, but similar efforts by all states would be desirable.

Improving the Data Base for Urban Local Bodies

42. There is a need for a comprehensive and unified database on ULBs. This is a very crucial aspect. At present the reporting requirements for ULBs in India are weak. Experience so far shows that it takes a long time by the rating agencies to assign rating to ULBs mainly due to non-availability of systematic information on most of the parameters. Although a number of Municipal Corporations have made efforts to switch over to double entry accrual-based accounting system, progress seems to be more visible only in select States *viz.*, Tamil Nadu, Andhra Pradesh and Karnataka. There is a need for standardisation of financial recording and reporting formats by ULBs so as to enhance the ability to consolidate ULBs accounts at State and at all India levels. The ThFC, in its report submitted in 2009, had noted that notwithstanding the fact that the Eleventh and Twelfth Finance Commissions underlined the need for maintaining a data base as well as up-to-date accounts of the local bodies and made a provision for supporting State governments in addressing these shortcomings, no credible data on the financial performance of the local bodies could be obtained. In view of this, the ThFC reiterated that the States should implement in all ULBs an accounting framework consistent with the accounting format and codification pattern suggested in the National Municipal Accounts Manual (NMAM) of the Ministry of Urban Development (MoUD)[10]. There is, thus, a need to devise and implement a uniform pattern of budgetary and accounting practices to enable improved compilation/reporting/dissemination of financial data relating to ULBs.

---

[9]These include Implementation of Double Entry Accrual based systems by the local bodies, assignment of technical guidance and supervision of audit to the CAG of India, appointment of Independent Local Body Ombudsman, electronic transfer of grants by the states to the local bodies to ensure transparency and timely disbursement, removal of exceptions in the levy of property tax, notification of current as well as expected levels of improvements in service standards etc.

[10]The Ministry of Urban Development had prepared the NMAM based on the report of the task force set up by the CAG in 2002. The Manual which provides for a codified structure to facilitate capturing of all financial information with an urban local body was circulated to all State governments in December 2004.

Developing the Domestic Debt Market

43. Municipal bond markets that were active till about 2005-06 have not shown much progress in past few years. There is a need for further deepening the bond markets and encouraging municipalities to tap these bond markets by creating project-specific SPVs. Greater disclosure standards and an effective dispute-resolution mechanism are required. The overall perception of municipal bonds being risky has to change. Experience shows that all those who have successfully accessed bond market have cashed in on their creditworthiness image. There is also a demand from certain circles to remove the fixed cap on tax free interest from municipal bonds as it does not respond to market conditions and makes municipal bonds unattractive at times depending upon prevailing interest rates. Hence, it is felt that tax laws concerning municipal bonds could be revisited once in two years. Given the long term nature of infrastructure financing which is beyond the normal 5-8 year loan tenors of commercial banks and the decreasing scope for incremental financing by banks, there is an argument to relax norms for pension/insurance/provident funds that can fill in some of the gap in debt financing in the infrastructure sector in general and urban infrastructure in particular. Combining term loans with bond refinancing could also increase overall financing and help reach financial closure.

Upscaling PPPs

44. Currently, PPPs constitute only a small part of the urban infrastructure investment. It is crucial that as in case of roads and airport sector, PPPs should become the default mode of undertaking projects in the urban sector as well. But for that one has to create commercially viable and bankable projects which are attractive to private sector. One has to encourage PPP mode through monetizable models, project specific SPVs, well-structured 'Requests for Proposals' and draft contracts ensuring a fair and balanced relationship with clear and realistic risk allocation. Only then serious contenders from the private sector will come forth.

45. It is a well-known fact that a large part of the infrastructure sector in India (especially irrigation, water supply, urban sanitation, and state road transport) is not amenable to commercialisation for various regulatory, political and legal constraints. Due to this, Government is not in a position to levy sufficient user charges on these services. The insufficiency of user charges on infrastructure projects negatively affect the servicing of the infrastructure loans. Generally, such loans are taken on a non-recourse basis and are highly dependent on cash flows. Hence, levy and collection of appropriate user charges becomes essential for financial viability of the projects.

46. Urban Infrastructure sector is today at the same stage where the road sector was about 15 years back. The strategies adopted and lessons drawn from the privatization process of the road sector should be put to use for successful privatization of urban

infra projects[11]. As highlighted in the Report of Sub-committee on Financing Infrastructure in the 12th Plan (2012), there is a need for standardized project documents (bid and concession agreements) as in the case of road or power sector. Lender's interests are to be adequately and appropriately protected in the concession agreements like in the model concession agreement of transportation or power sector.

47. Also, one has to learn the lessons from the central/state level infra-projects, more than half of which are stuck due to various regulatory/administrative hurdles, land acquisition issues and environmental clearances. Consequently most of these projects have exhibited significant time and cost overruns making projects unviable. Effective governance is another key to the success of private investment. Today telecom and coal sector are examples of how lack of effective governance can bring them to a standstill. Of course, Government in the past few months have taken a lot of measures to address some of these issues. Urban sector is at an early stage of its journey of the PPP mode and we should be careful in creating the enabling environment for the private sector to operate effectively in this framework in which risks and rewards are shared in an optimal way.

Unlocking Land Value

48. Evidence suggests that land, especially in and around urban areas, can be tapped for generating resources for supporting sustainable urbanization. Sales revenues from MMRDA land auctions in Bandra-Kurla complex in January 2006 was a staggering ₹23 billion, which was two times more than the total infrastructure investment made by the Mumbai Municipal Corporation during 2004-05. The Report on Monetizing Land prepared for the ThFC[12] has presented a case for financing urbanization using land based instruments. As per the study, about 15 per cent of ULB revenues have in the 10 years (1998-99 to 2007-08) come from the sale/lease of land by Development Authorities in the cities of Kolkata, Bangalore and Ahmedabad. Thus, there is a case for better tapping of some of the land based financing sources like conversion charges, betterment charges and development charges. Vacant land tax could be an important source of financing. While common internationally, especially in Latin America countries which levy about 3 per cent tax on the capital value of properties, vacant land tax is sparingly used in India. This instrument can also contribute to promoting housing if the tax rate on built-up land is lower than on vacant premises. A comprehensive registry of urban land at all levels of government is needed as a first step towards putting land based instruments to good use.

Potential Role of Micro-finance Institutions

49. Some Microfinance institutions (MFIs) in conjunction with NGOs have also played an important, albeit limited role in providing access to urban infrastructure, particularly for slum development, such as, SEWA in Gujarat. Local feel of the area, low

---

[11] Road sector has done considerably well with regard to PPP since early 2000s except 2012-13 when roads projects faced time and cost overruns due to regulatory/administrative hurdles.

[12] Sridhar Kala Seetharam (2009), "Land as a Municipal Financing Option: A Pilot Study from India".

cost of delivery and absence of bureaucratic processes are the unique selling propositions (USPs) of the MFIs. About 25 per cent of India's urban population live in slums and urban development cannot be carried out by neglecting slums. Recognising this, the potential with MFIs could be explored and exploited to ensure better service delivery, particularly in sectors like water supply and sanitation and home improvement lendings in urban areas through micro loans and supporting services. The reasons for the less popularity of MFIs in urban infrastructure space could be linked to their complex setting when compared with the rural areas; recent problems that have dented the credibility of the sector; lack of enthusiasm on the part of the public authorities and the political class to engage in the sector and the perception that the concept of MFI's has a rural origin.

Enhanced Scope for Multilateral/Bilateral Loans

50. Multilateral/bilateral assistance has been an important contributor to urban infrastructure financing, albeit at a lower scale so far. This could, however, become an significant source of debt financing. As per the 12th Plan estimates, about 8 per cent of the total projected urban transport infrastructure investment requirements have to come from multilateral/bilateral loans[13]. While on the one hand, such loans have the advantage of having lower interest rates compared to commercial loans, they generally have conditionalities attached to them. Also, these loans are seldom offered at the sub-sovereign level. Notwithstanding this, ULBs need to improve their credit worthiness and overall bargaining power so as to make some of the first steps towards accessing international finance at cheaper rates with suitable state/central government guarantees. They also have to put in place the mechanism to mitigate foreign exchange related risk.

Regulatory Framework for Municipal Defaults

51. The process whereby municipal default, or the threat of default, is handled in India is extremely opaque and there is almost no reliable or objective data concerning it. In the absence of any municipal bankruptcy process, any default is generally handled through a three-way negotiating process involving the borrowing municipality, the relevant state government, and the investor, with the state government playing a very significant role. The process is generally *ad hoc,* often strongly relationship-driven, and is usually affected by a range of political and commercial considerations (World Bank, 2011). Keeping this in mind, there is a need for a well laid down default resolution mechanism for municipalities so as to avoid moral hazard on the part of borrowers and attract private investors.

Best Practices and Innovations

52. There are many best practices and innovative experiments undertaken by some of the ULBs and State Governments in India in areas, such as, local resource

[13] It may be noted that the share of projected private investment as per 12th Plan in urban transport is higher vis-à-vis overall urban infrastructure investment.

mobilization, expenditure management, raising debt funds and in engaging private sector. Sometimes it is purely a local body initiative and sometimes at the behest of the State Government. The same needs to be discussed and disseminated widely. A national institutional set up on urban best practices and innovations by urban local bodies in the country and outside may also be developed. This Conference, ofcourse, is a constructive step towards this end.

Professional Management in ULBs

53. There are several studies that suggest that local bodies are not fully equipped to take up the responsibility of long term planning, especially of launching capital projects. A considerable expertise is required to identify the infrastructure projects appropriate for the development of urban areas and make a proper assessment of resources required. One of the biggest concerns for investors in ULBs arise from political risks. It is therefore necessary to put in place all possible measures to insulate project financing structures from political interference or decisions based on political and other external considerations. More than any credit guarantees, investors will value ensuring that such projects are insulated from politically populist interventions. Tariffs and other revenue streams from such projects need to be fully ring-fenced from the vagaries of politics. Given the weak institutional capacity of ULBs to monitor the implementation of such arrangements, it is also imperative that release of funds is followed by capacity building to monitor its implementation. Lateral induction from private sector and internship from reputed management/educational institutions in a structured and incentivized framework could greatly aid in professionalization of the ULBs, particularly in the areas of urban infrastructure management.

VI. Concluding remarks

54. I would like to conclude by emphasizing the fact that in the coming years, Indian cities are going to be central to its economic future. Today most advanced countries and even many developing countries like China, Brazil and Thailand are grappling with aging populations and rising dependency ratios. Unlike them, India has a young and rapidly growing population—a potential demographic dividend[14] - that presents the country with a great opportunity to enhance its growth and seek more convergence of per capita incomes with that in the developed world. For India to reap in the benefits from this dividend in a sustainable manner, we need to create adequate jobs, particularly in the relatively more productive Indian urban sector and for that we need to invest in our cities. It needs to be appreciated that today it's not nations but cities that fight for investments. With India globalizing in a big way, there is a lot of focus on attracting foreign direct investment (FDI). This essentially means that our cities will have to host these foreign companies including global banks, their back offices, R&D centres as well as foreign nationals and non-resident Indians. Accordingly, there is an urgent need for improvement in city infrastructure and provision of quality services in cities so as to

[14] Median age for India's population is about 27 years compared with over 40 for most OECD economies. This will add significantly to its labour pool and even as the median age bucket rises, it will still be at a relatively young 30-34 age bracket by 2026.

enable them to compete for investments, both nationally and internationally. These together would ensure that cities generate adequate productive employment opportunities and provide a decent quality of life to all its inhabitants including the poor. Undoubtedly to achieve this, urban sector needs more attention than what it has garnered so far in contrast to the importance we have hitherto given to the rural areas in terms of schemes, programmes and projects. I am happy this Conference has taken an important step in this direction. On the part of the cities and towns, authorities have to really live up to this expectation by taking focused initiatives in a proactive manner anticipating the demand for the same rather than playing constant catch-up as we see in India. The crucial link is raising funds for the same with a multi pronged approach: (i) generating adequate own resources, (ii) taking innovative measures to attract private capital, both internal and external, into the sector and (iii) finally, taking the desirable reform measures to ensure the fulfilment of the first two.

55. I once again thank the organisers from CAFRAL for giving me an opportunity to share my thoughts on the subject and wish that the conference would generate productive discussions and practical ideas for evolving sustainable financing strategies for urban infrastructure.

References:

Chattopadhay, S (2006), "*Municipal bond market for financing urban infrastructure*", Economic and Political Weekly,Page-2006,Volume-41,Issue 26.

Government of India (2012), "*Faster, More Inclusive and Sustainable Growth*", Draft Twelfth Five Year Plan (2012-17) document, Vol II, Planning Commission.

---------------(2012) Report of the Subcommittee on financing urban infrastructure in the 12th plan, Ministry of Urban Development.

-------------- (2011) "*Report on Indian Urban Infrastructure and Services*", The High Powered Expert Committee (HPEC) for estimating the investment requirements for urban infrastructure services; (Chairman: Isher Judge Ahluwalia).

-------------(2006), Report of the technical group on estimation of urban housing shortage,11th Five Year Plan: 2007-12, Ministry of Housing and Urban Poverty Alleviation.

--------------- (2013), Annual Report Ministry of Urban Development 2012-13.

Gupta, Dipankar (2013), '*Revolution from Above: India's Future and the Citizen Elite*'.

McKinsey Global Institute (2010) "*India's Urban Awakening: Building Inclusive cities, sustaining economic growth*", Mckinsey & Company.

Pradhan R P (2006) "*Public-Private Partnerships: The best method to finance Urban Infrastructure*", The IUP journal of Infrastructure December.

Mohanty P.K., B M Misra, Rajan Goyal and P.D.Jeromi (2007), "*Municipal Finance in India -An Assessment*", Development Research Group (DRG) Study, No.26, Reserve Bank of India, Mumbai.

Pethe Abhay, B M, Misra and Rakhe P B (2009) *Strengthening Decentralisation: Augmenting the Consolidated fund of the states by the thirteenth Finance Commission-A normative Approach*,Development Research Group(DRG),Study No-29, Reserve Bank of India.

Shahana Sheikh & Mukul G Asher "*A case for developing the municipal bond market in India*", ASCI journal of Management 42(1) Page no-1-19, 2012, Administrative Staff College of India.
Sridhar Kala Seetharam and Venugopala Reddy A, (2009) "*Land as a Municipal Financing Option: A Pilot Study from India",* Public Affairs Centre.

The World Bank(2011), "*Developing a regulatory framework for municipal borrowing in India*", Volume I.

US Securities and Exchange Commission (2012), "*Report on the Municipal Securities Market*", July 31.

Vaidya C (2009), "*Urban Issues, Reforms and way forward in India*", Working Paper No.4/2009, Department of Economic Affairs.

Vaidya C & Vaidya H (2010) "*Creative financing of Urban Infrastructure in India through Market based financing & Public Private Partnership options*", Presented at the 9th Metropolitian Congress, October 22-26.

Websites – www.moud.gov.in (Ministry of Urban Development)

www.jnnurm.nic.in (Jawaharlal Nehru National Urban Renewal Mission)

www.censusindia.gov.in