Financing Infrastructure Through

Public Private Partnerships

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Foreword

It is estimated that to sustain the desired levels of GDP growth, an investment of USD 500 bn is required during the Eleventh Five Year Plan period. With budgetary limitations of the government, a major part of this investment has to be progressively financed by user charges. The Private sector has to substantially increase investments from the current levels.

Private sector participation can be greatly facilitated through addressing the constraints in financing models of infrastructure projects. Also, Global consolidation in the infrastructure segment has been seen in sectors like Road, Shipping, and Power etc. We will need to witness this trend in the Indian Infrastructure sector to emerge leaders of global scale and repute, a trend that is already been seen in pockets of excellence.

We, at YES BANK, firmly believe in **Public Private Partnerships (PPP)** being a critical institutional innovation technique that will overcome the weaknesses, and synergize the strengths of both the public and private sectors. YES BANK has institutionalized **Strategic Initiatives & Advisory Government (SI-G) Division** to advocate PPP as a vital development approach for India, and to work in partnership with Union Government Ministries and State Governments. The division has been driving thought leadership initiatives, strategic research, and has developed key 'Knowledge Partnerships' with various apex industry associations, State and Central Governments, etc., to provide direction for sustainable development and inclusive growth.

YES BANK believes in 'community participation' as a positive enabler and has structured an innovative '**Social Equity**' model for development. This model attempts to include the local community as a partner and follows a customized PPP approach for inclusive development. While individual efforts by the private and voluntary sector are recognized; the government remains a crucial enabler of mass development.

YES BANK, as a Bank for "**Future Industries of India**", has a significant focus on supporting the sustainable growth and development of emerging sectors that are driving the Indian Economy. This insightful Knowledge Report is a reflection of YES BANK's in-depth understanding and analysis of India's infrastructure gap. The report further elucidates the evolving models in PPP, and how these models can be structured to ensure benefit to all stakeholders – the society, the government, the financer, the private participants, and the economy as a whole.

We are certain that this report will facilitate a better understanding of PPP financing, and look forward to further associating with all concerned stakeholders to develop sustainable and commercially viable PPP projects across the country.

Sincerely,

RANA KAPOOR
Founder/ Managing Director & CEO

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Infrastructure Investment Needs

Infrastructure constitutes the backbone of an economy and there exists a strong linkage between the development and availability of quality infrastructure and economic growth.

India, inspite of being the second fastest growing economy in the world, continues to experience significant gaps in the supply of essential social and economic infrastructure and services. This 'infrastructure deficit' is widely regarded as a major constraint in India's attempt to sustain, deepen and expand its economic growth.

The availability of improved infrastructure and the investments made thereof, will be a key challenge to sustaining economic growth.

The Planning Commission estimates that "to maintain GDP growth of 7-8%, the investments as percentage of GDP need to increase by 3.4% from current 4.6% to 8% in the 11th Plan period". In terms of absolute terms, it amounts to **USD 350 billion** in the next five years. Majority of this investment would need to come from private sector.

	Year		Next Five year (11th Plan)					Total
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	
GDP* Growing at 9% pa (US$ Billion)	718	783	853	930	1014	1105	1204	5106
GCFI Required as % of GDP**	5	5.5	5.5	6.5	7	7	8	
GCFI Required (US$ Billion)			47	60	70	77	96	350

* GDP 2005-06 at Market Prices was US$ 718 billion
**GCFI =Gross capital formation in Infrastructure

Table 1: Infrastructure Investment requirement for 11th Five year plan

The provision of infrastructure in India has largely remained within the purview of the public sector because of such inherent characteristics as non-excludability, externality, huge capital investment and long gestation period. However, inadequate budgetary support due to strained public finances has led to the underdevelopment of infrastructure in the country. The problem is exacerbated by the lack of re-investible surplus generation by existing infrastructure projects, and there is a realization that the sector needs to generate enough surplus for reinvestment. It is also being increasingly acknowledged that the fiscal limitations of the government will require greater private sector participation to finance and provide infrastructures. Public private partnerships (PPP) are therefore, being seen as a sustainable financing and institutional mechanism with the potential to bridge the infrastructure gap.

The government has been proactive in improving the policy and regulatory environment to facilitate private sector involvement in some sectors like telecommunications, roads and ports. Other sectors however, notably urban infrastructure, are lagging.

Public Private Partnership (PPP)

Although governments are still the main investors in infrastructure, constrained public finances and the scale of investments require a greater role for the private sector. This has led to a reassessment of infrastructure financing and a move away from the traditional model of public sector ownership. New techniques to share risks and gain access to capital market financing are becoming increasingly important and the ongoing economic reforms have created substantial opportunities for private investment in infrastructure projects.

A public-private partnership is essentially a contractual agreement between public and private sector partners, which allows more private sector participation than is traditional.

Under public private partnerships, the government role remains paramount but it gets redefined as one of facilitator and enabler, while the private partner plays the role of financier, builder, and operator of the service or facility. Government of India's role as an enabler/facilitator for the development of Telecom sector in India is highly acclaimed. In India however, over and above the role of facilitator and enabler, the government has also participated in the financing of PPP projects through equity stakes in the airport sector, positive grant in road projects, Annuity structure in the road sector etc.

PPPs aim to combine the skills, expertise, and experience of both the public and private sectors to deliver higher standard of services to customers or citizens. The public sector contributes assurance in terms of stable governance, citizens' support, financing, and also assumes social, environmental, and political risks. The private sector brings operational efficiencies, innovative technologies, managerial effectiveness, access to additional finances, and construction and commercial risk sharing.

Benefits of Public Private Partnership

Public private partnerships are unlikely to fully replace the traditional financing and development of infrastructure but they offer several benefits to governments trying to address infrastructure shortages.

These benefits arise from the very definition of PPPs and differ in quantum from project to project depending on the nature of the project. At a glimpse, the immediate and obvious benefits of PPP come straight to the forefront in terms of enhanced public management, genuine risk transfer, private investment, faster implementation and partnership building.

PPPs allow for de-risking of projects and promoting innovative mechanisms where the public sector is unable to take the lead.

PPP projects are able to offer a whole plethora of **advantages**, including:

- **Providing Investment** - PPPs often allow the public sector to translate upfront capital expenditure into a flow of ongoing service payments. This enables projects to proceed when the availability of public capital may be constrained (either by public spending caps or annual budgeting cycles), thus bringing forward much needed investment.
- **Faster implementation** - the allocation of design and construction responsibility to the private sector, combined with payments linked to the availability of a service, provides significant incentives for the private sector to deliver capital projects within shorter construction timeframes.
- **Reduced whole life costs** - PPP projects which require operational and maintenance service provision provide the private sector with strong incentives to minimize costs over the whole life of a project, something that is inherently difficult to achieve within the constraints of traditional public sector budgeting.
- **Better risk allocation** - a core principle of any PPP is the allocation of risk to the party best able to manage it at least cost. The aim is to optimize rather than maximize risk transfer, to ensure that best value is achieved.

- **Better incentives to perform** – the allocation of project risk should incentivise a private sector contractor to improve its management and performance on any given project. Under most PPP projects, full payment to the private sector contractor will only occur if the required service standards are being met on an ongoing basis.
- **Improved quality of service** - international experience suggests that the quality of service achieved under a PPP is often better than that achieved by traditional procurement. This may reflect the better integration of services with supporting assets, improved economies of scale, the introduction of innovation in service delivery, or the performance incentives and penalties typically included within a PPP contract.
- **Generation of additional revenues** – the private sector may be able to generate additional revenues from third parties, thereby reducing the cost of any public sector subvention required. Additional revenue may be generated through the use of spare capacity or the disposal of surplus assets.
- **Improved public management** – by transferring responsibility for providing public services government officials will act as regulators and will focus upon service planning and performance monitoring instead of the management of the day to day delivery of public services. In addition, by exposing public services to competition, PPPs enable the cost of public services to be benchmarked against market standards to ensure that the very best value for money is being achieved.

  If properly managed and executed, public private partnerships can lead to a whole range of economic, social and service gains for the government, the private players and the community as a whole and benefit both public sector as well as the private sector.

The Benefits for the public sector include:

- Improved efficiency, closely managed costs
- Efficient operation from the private sector;
- Better allocation of public sector funds and value for public sector money
- Bridging infrastructure deficit critical to sustaining the growth momentum.
- Leveraging limited public funds to attract private capital.
- Bringing private sector efficiencies to infrastructure for
  - Improved service delivery
  - Reduced cost
  - Efficient Risk Sharing
  - Sharpen accountability

The Benefits for the private investors in a project include:

- To the extent the concession framework is appropriately established, the private sector will be in a position to leverage its project and take it off its balance sheet;
- If the private sector performs well, it will be able to derive attractive returns on its initial investment;
- The private sector investors will benefit from being involved in the project for the whole length of the concession,
- Enhancing their experience in managing long term projects and enhancing their profile in the market;
- There may also be potential benefits for the private sector through leasing and other structures.

Benefits to community include:

- Better allocation of tax-payer money;
- Passing on of efficiency gains made by the private sector are to end users through decreased user fees
- Better quality services resulting from better managed projects

Although PPP is beneficial to the private sector, however the private investors carry lot of concern for participation in PPP projects. Some of the key concerns are:

- Lack of conducive financial systems and availability of affordable long term funds
- Inadequate user charges and Uncertain revenue streams
- Non-transparent subsidies
- Lack of commercially viable projects
- Lack of quality support and funding for project development
- Weak regulatory framework
- Opposition from existing vested interests

Therefore, in order for public private partnerships to be successful, the government needs to do much more on developing the depth of the debt markets, and there need to be clear policies that are backed by a legislative, legal and regulatory framework. There must be clarity on laws governing the public estate, powers and duties of regulators, and on the specific powers which determine the use of land required for the project. While a strong legislative framework exists in India, the high costs of legal action and the extended timelines are impediments to effective implementation of existing laws and policies. This also needs urgent attention.

Models of Private Participation – An Overview

We have seen the need and the benefits of Public Private Partnerships. There are various modes of private sector participation in these projects. Increasingly governments at the centre and state level are looking at the private sector for solving India's Infrastructure problems.

Over the years the question of why private sector is necessary and how private sector will provide the answer has seen a change and the question being asked now is when will the private sector enter the infrastructure sector. The private sector on its part has been actively involved in most of the infrastructure projects being developed and in the last six to seven years most of the infrastructure projects developed in telecom and transport in India have been with active private sector participation.

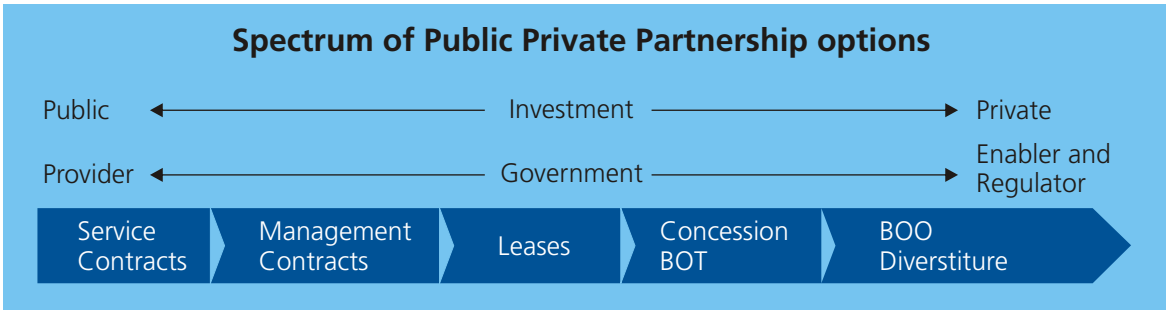
PPP is a broad umbrella for a relationship between public and private sector. PPP can take a whole variety of forms and there are a number of permutations and combinations that are possible under the PPP framework. The options available for delivery of public services range from **direct provision** by a ministry or government department to **outright privatization**, where the government transfers all responsibilities, risks and rewards for service delivery to the private sector. While in some schemes/projects, the private provider may have significant involvement in regard to all aspects of implementation; in others s/he may have only a minor role.

According to the World Bank classification, in a PPP project, private investors invest in public service infrastructure through one of the following four routes:

1. **Concessions:** A private entity takes over the management of a state-owned enterprise either to build, rehabilitate and operate or to transfer for a given period.
2. **Greenfield projects:** A private entity or a public-private joint venture builds and operates a new facility for the period specified in the project contract. The facility may be returned to the public sector at the end of the concession period.
3. **Divestitures:** A private entity buys an equity stake (full or partial) in a state-owned enterprise through an asset sale, public offering, or mass privatisation program.
4. **Management and lease contracts:** A private entity takes over management of a state-owned enterprise for a fixed period, while ownership and investment decisions remain with the state.

Under these routes, some widely used forms of PPP are Build-Own-Operate (BOO), Build-Operate-Transfer (BOT), Build-Operate-Own-Transfer (BOOT), Buy-Build Operate (BBO), service contracts, operations & maintenance (management) contracts and capital projects with operations & maintenance contract. Additional forms of private sector participation include: Design-Build-Operate (DBO); Developer Financing; Enhanced Use Leasing (EUL); Lease/Develop/Operate (LDO) or Build/Develop/Operate (BDO) and Lease/Purchase among others.

In general, public private partnerships can be categorized based on the **extent of public and private sector involvement** and the **degree of risk allocation.**



Source: Kerala Calling, February 2004, "Public Private Partnerships in Urban Infrastructure"

Figure 2: Public Private Partnership Options

A brief description of some forms of public private partnerships, including contracts, is as follows.

Build-Own-Operate (BOO)	Build-Operate-Transfer (BOT)	Build-Operate-Own-Transfer (BOOT)
The private sector finances, builds, owns and operates a facility or service in perpetuity. The public constraints are stated in the original agreement and through on-going regulatory authority.	The private partner builds a facility to the specifications agreed to by the public agency, operates the facility for a specified time period under a contract or franchise agreement with the agency, and then transfers the facility to the agency at the end of the specified period of time.	A private entity receives a franchise to finance, design, build and operate a facility (and to charge user fees) for a specified period, after which ownership is transferred back to the public sector.

Buy-Build-Operate (BBO)

A BBO is a form of asset sale that includes a rehabilitation or expansion of an existing facility. The government sells the asset to the private sector entity, which then makes the improvements necessary to operate the facility in a profitable manner.

Operations and Maintenance

A public partner contracts with a private partner to provide and/or maintain a specific service. Under the private operation and maintenance option, the public partner retains ownership and overall management of the public facility or system.

Operations, Maintenance & Management

A public partner (federal, state, or local government agency or authority) contracts with a private partner to operate, maintain, and manage a facility or system proving a service. Under this contract option, the public partner retains ownership of the public facility or system, but the private party may invest its own capital in the facility or system.

Design-Build-Operate (DBO)

A single contract is awarded for the design, construction, and operation of a capital improvement. A simple design-build approach creates a single point of responsibility for design and construction and can speed project completion by facilitating the overlap of the design and construction phases of the project.

Developer Finance

The private party finances the construction or expansion of a public facility in exchange for the right to build residential housing, commercial stores, and/or industrial facilities at the site.

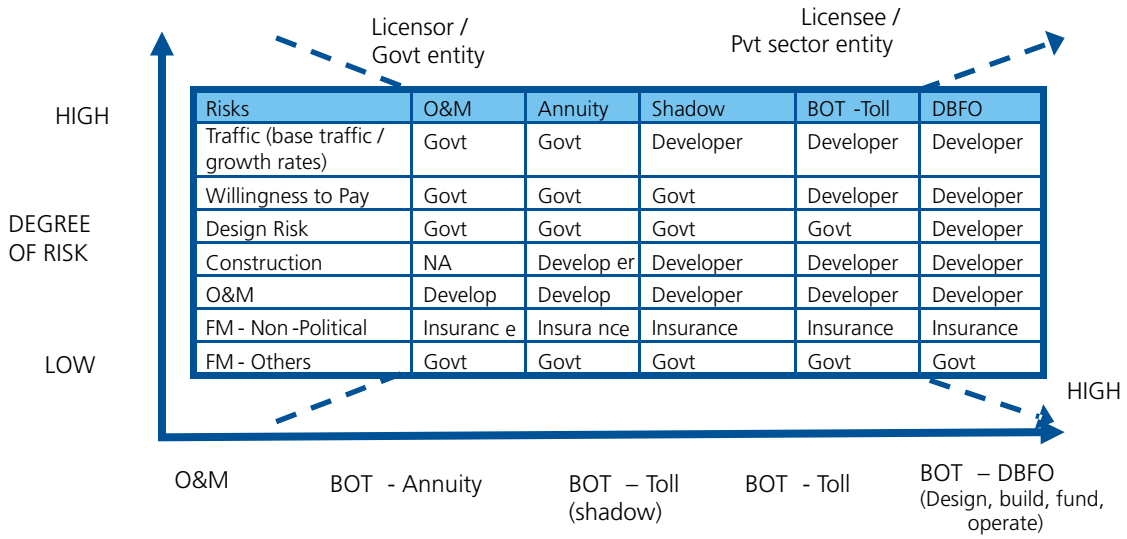
Lease/Develop/Operate (LDO) or Build/Develop/Operate (BDO)

Under these partnerships arrangements, the private party leases or buys an existing facility from a public agency; invests its own capital to renovate, modernize, and/or expand the facility; and then operates it under a contract with the public agency. A number of different types of municipal transit facilities have been leased and developed under LDO and BDO arrangements.

Governments are increasingly recognizing that public private partnerships in offer the most promise for developing infrastructure and improving services. They are also recognizing that they need to act on critical policy, regulatory, and institutional reforms and tackle key constraints to private participation.

Major Constraints to Public Private Partnerships in India

Infrastructure projects are complex, capital intensive, long gestation periods that involve multiple unique risks to project financiers. Infrastructure projects are characterized by non recourse or limited resource financing ie lenders can only be repaid from the revenues generated by the project. A risk matrix on the above models is given below:



Risks	O&M	Annuity	Shadow	BOT -Toll	DBFO
Traffic (base traffic / growth rates)	Govt	Govt	Developer	Developer	Developer
Willingness to Pay	Govt	Govt	Govt	Developer	Developer
Design Risk	Govt	Govt	Govt	Govt	Developer
Construction	NA	Develop er	Developer	Developer	Developer
O&M	Develop	Develop	Developer	Developer	Developer
FM - Non -Political	Insuranc e	Insura nce	Insurance	Insurance	Insurance
FM - Others	Govt	Govt	Govt	Govt	Govt

- **Financial sector constraints**

  Financing options are rapidly changing due to financial, technological and organizational innovations at project & policy levels there are no clear guidelines for private sector participation.

  - **Inadequate availability of long term equity finance** .Despite bearing the greatest level of operational, financial and market risks, equity financing in infrastructure is limited due to inadequate exit options for investors.
  - **Underdeveloped debt markets:** Infrastructure projects require long term debts. However, the Indian corporate debt market lacks the size and depth to cater to the long term tenors required for financing infrastructure. The market is constrained by cumbersome issuing guidelines, inefficient clearing and settlement mechanisms poor coordination among various agencies involved in corporate debt market regulation. Reliance on foreign funds due to inadequate domestic funds from debt markets pose foreign exchange fluctuation risks, which is further aggravated due to frequent revisions by RBI in forex policies like ECB, FDI etc.
  - **Restrictive policies and regulations on investments in infrastructure,** particularly those pertaining to insurance companies and pension funds. There is need to investment policies and regulatory guidelines that encourage banks, insurance companies, pension and mutual funds with to invest in infrastructure. Bank finance has been the preferred alternative to capital market funding for infrastructure projects. However, this source is also drying up as infrastructure investments are fast approaching lending limits imposed by the Reserve Bank of India.

- **Limited Government Capacity**

  PPP projects are complex transactions and the government is constrained by :

  - Limited capacity to effectively conceptualize, procure and manage PPPs .This is very critical in determining the viability of the project and the willingness of financial institutions to finance it.
  - Multiple clearance requirements at various levels despite the introduction of single window clearance system for projects.
  - Lack of coordination between policies and actions of different ministries which is critical for infrastructure projects that invariably involve dealing with different ministries.

- **Policy, Legal and Regulatory Framework**:

  Despite a stable government, a reliable and independent judiciary and well-performing public institutions, policy and regulatory risks remain barriers to effective PPP implementation. The private sector's perception of regulatory risks is one of the most important factors that have limited its investments in infrastructure. Concerns relate to the lack of clarity in roles, high levels of discretion and arbitrary actions by governments, and uncertainty in regulatory rules. Additional risks relate to regulations not keeping pace with the reform agenda (the RBI's stringent securitisation guidelines that have hampered growth in the secondary market for infrastructure bonds), and even the risk of smaller projects (non- multilateral agency participation) being sidetracked due to lack of political will and frequent changes in ruling party (risks are accentuated as projects usually outlast the government's term in office). For example, Aviation Economic Regulatory Authority (AERA) has been in the offing for ages, but still to see the light of day. Similarly, Tariff Authority for Major Ports (TAMP) guidelines on determination of tariff on major ports have been challenged on many occasions.

  Uncertainty on these fronts raises the risks associated with infrastructure investments and continues to be a constraint to private sector participation. There is need to not only have clear policy guidelines for each sector but also a separation of policy and regulatory functions. This needs to be backed by an institutional framework that fosters independent and effective regulatory oversight, clarifies the role of government, harmonizes procedures and policies and enhances accountability. While safeguarding the public interest and service outcomes, this would ensure effective competition, redressal against arbitrary actions of the government, conflict resolution among the various stakeholders, and thereby attract private interest and investments. To enhance the effectiveness of regulatory institutions, their autonomy, accountability, and independence should be written into law.

- **Inadequate Pipeline of well prepared financially viable projects:** There is a lack of shelf of credible bankable infrastructure projects which could be offered for financing to the private sector. Financial structuring of a project becomes easier if it is appraised and structured in a credible manner. Well prepared projects can reduce the cost of bids and attract more bidders in a public tender.

  Private sector participation would also be greatly enhanced if the government can find a suitable mechanism to publicize the size of business opportunity in PPPs in each state and the pipeline of projects is identified. Private sector is increasingly concerned that this pipeline creation is not happening and needs vigorous government efforts and advocacy with the state governments.

- **Institutional arrangements :** International and domestic experience suggests that identifying and establishing clear and unambiguous institutional mechanisms in relation to PPPs early on can greatly assist in successful PPP implementation. At the same time, it is useful to have a degree of institutional flexibility in the PPP programme to encourage experimentation and innovation, and importantly, to ensure that public bodies that have capacity are not delayed while institutional capacity elsewhere is being developed.

- **Standardization of Prequalification, bidding, and procurement :** Given the variations in the formats, bidding procedures, agreements and overall execution of PPPs among the various states/agencies in India, the private sector has highlighted the need for standardized prequalification and bidding procedures and guidelines for ensuring efficiency, predictability, and ease of approval process ('single window'). They would like the PPP sponsoring agencies to utilize the available knowledge base on best practices and standards related to project identification, development, procurement, and contract management. Standardization would benefit potential sponsoring entities by clarifying the public sector approach, and reduce the risk premium, which the private sector seeks.

For example, bidding in India is an expensive process. Companies have to invest time and money. The bid qualification parameters are many times ambiguous. Most bids involve bid bonds. Bids are usually delayed, adding to the cost, and sometimes cancelled, representing sunk costs for companies. Litigations and political interference add further woes to the situation. Recently MSRDC Sewri – Navi Mumbai transharbour link project has involved various litigations, so was the case for the Delhi/ Mumbai airport privatization process, delaying the process by more than two years.

- ***Project development and Pre feasibility reports*:** Macro level investments needs are not always translated into projects that are ready to be considered by private investors. This necessitates the need for government to invest in project development. A major constraint that has been observed in PPP projects is their inappropriate structuring. It is important to get a pre feasibility study undertaken by consultants on the viability of the project before undertaking the project. There has been some progress on this front but the process needs to be institutionalized across all PPP projects in the country.

In addition to easing the financial, regulatory and capacity constraints, innovative financing mechanisms and instruments also need to be encouraged in order to realize the potential of public private partnerships.

Innovative Financing Mechanisms Under PPP

Infrastructure development requires large-scale investments which are not possible out of government budgetary resources alone and new institutional and financing mechanisms are required to meet the gap. Public private partnerships are usually undertaken to supplement these inadequate conventional funding sources, thereby reducing demands on constrained public budgets. The objective is also to mingle private commercial debt and equity with available government resources to make PPP projects financially viable and attractive investment opportunities for the private sector.

In the Indian scenario too, there is a need to have innovative financing mechanisms for infrastructure which can use existing financial resources more effectively and supplement and leverage traditional financing. A diagrammatic presentation of various alternative financing structures for infrastructure projects is given below:

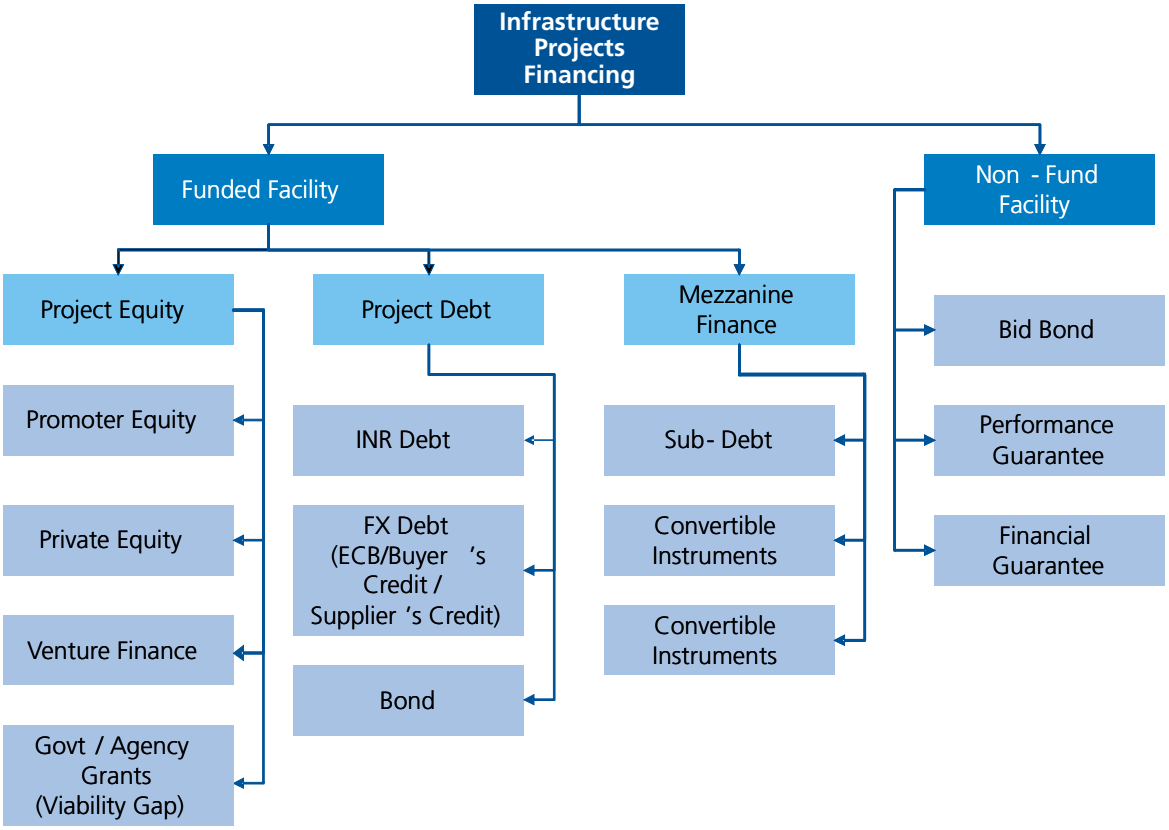


Figure 3: Alternative Financing Structures for Infrastructure Projects

Project Debt

- **External Commercial Borrowings (ECBs)**

  External Commercial Borrowing include bank loans, suppliers' and buyers' credits, fixed and floating rate bonds (without convertibility) and borrowings from private sector windows of multilateral Financial Institutions such as International Finance Corporation. Euro-issues include Euro-convertible bonds and Global Depository Receipts (GDRs).

  In India, External Commercial Borrowings are being permitted by the Government for providing an additional source of funds to Indian corporates and PSUs for financing expansion of existing capacity and as well as for fresh investment, to augment the resources available domestically. ECBs can be

used for any purpose (rupee-related expenditure as well as imports) except for investment in stock market and speculation in real estate. All infrastructure and green field projects can raise up to 50% of the total project cost while telecom projects up to 50% of the project cost (including license fees) In the case of power projects, greater flexibility will be allowed based on merits.

The cost of funds in the Indian Market has been relatively higher than International Market and there is a growing tendency for Indian Business Houses to raise funds from International Markets. ECB has been a great reliever for the infra companies in the era of high local interest cost.

L&T Interstate Road Corridor, an SPV floated by **Larsen & Toubro (L&T)**, had raised ECB of ~ USD 125 million for the 76-km Palanpur - Swaroopganj road project.

- **Cash Flow Financing**

  This is a form of financing, typically debt financing, whereby lenders determine how much they are willing to lend based on the cash flow generated or expected to be generated by the infrastructure project. In a project Cash Flow Financing enables to turn invoices in to immediate cash. Usually the factor will pay up to 85%of the value of the invoice immediately and the remainder (less expenses) when the invoice has been settled. In cash flow financing the terms of financing are based on the nature and quantum of cash flow of the concerned business as well as the project execution of capability of the promoter. Under this mechanism institutional funding is tailor made to suit the financial requirement at various stages of the project. The lenders can estimate cash flow over life time of the project to assess the individual debt packages and rate of interest. The cash flow financing is more suitable for meeting the working capital requirements of the infrastructure project / contractor.

- **Securitization of receivables**

  In securitization future cash receivables are converted into financial or debt instruments tradable in capital market.

  A special purpose vehicle (SPV) assumes the entire credit risk on the securitized receivables of selected loan portfolio and insulates the lender from bankruptcy and insolvency risks.

  The SPV repackages the receivables into pass-through certificates of management lots for onward trading in the secondary market. The advantages to the lending institution are that it reduces the locking up of funds in new projects, facilitates reduction in borrowings, ensures better asset-liability management, and provides efficient exit option for the financial institution to transfer the risks of default and pre payment.

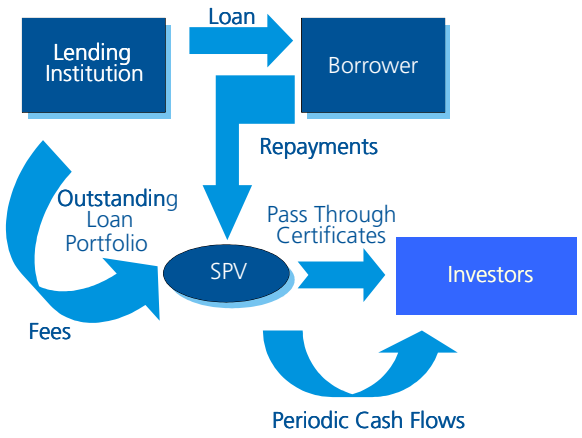


Figure 4: Securitisation of receivables

Local capital financing through bond issuance offers a different approach to lending by banks or even specialized municipal banks for urban infrastructure. Bonds create a debt instrument with terms and conditions that suit both the investor and the borrower. The advantage of municipal bonds is that the use of funds and collateral meets the needs of investors as well as local bodies. The SPV repackages the receivables into pass through certificates of management lots for onward trading in the secondary market.

In India, securitization faces the following problems:

1. Promoter credibility
2. Regulatory restrictions (RBI for banks, concessioning authorities for developers)
3. Lack of focused market participants

Attempted on and off for annuity road projects, since promoter involvement after construction is minimal. Structure hasn't kicked off in India despite the immense potential benefits

- **Corporate bond market**

  The corporate bond market needs to be developed in India to finance infrastructure growth. Government could also provide some of the comforts like exit options for the initial lenders and increase the viability gap funding. There are a number of new insurance companies and pension funds coming up which is likely to provide the most appropriate source for infrastructure financing going forward. Government needs to innovate and provide products to mutual fund companies, which is attractive to their investment requirements, to tap that capital to fuel infrastructure growth.

  Many of these exemplary and innovative efforts have not actually become mass development models largely due to the lack of an appropriate institutional framework. It exemplifies basic need for PPP planning to evolve within the government's wisdom to plan and create the PPP model.

- **Benefits of bonds as a source of funding**
  - Long tenure. Better asset-liability match considering Energy infra projects are long term
  - If corporates are able to access bond markets, projects can get fixed rate loans instead of 2, max 3 year resets they are able to get now
  - Lower all-in cost of fund raising – no need to maintain expensive banking operations
  - Tax saving bonds most efficient way of transferring govt fiscal support to infrastructure sector
  - Trading in bonds easier way of rotating money viz. a viz. selldowns of loans etc.

- **Current status of bond market for infrastructure projects**
  - The National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) have trading platforms for the transactions of debt securities. Infrastructure also exists for clearing and settlement. Money market and G-sec market transactions put through the Negotiated Dealing System (NDS) are order-driven, screen-based and transparent. Therefore physical infrastructure exists for secondary market to take-off.
  - Secondary market turnover in bond market in India is very low (Rs. 500 - 800 million in 2007) compared to economies like USA (USD 55 bn in 2005)
  - However, market still constrained because:
    - The investment pattern for most participants is largely restricted to public sector bonds or limited to very few private sector AAA bonds.
    - Lack of issuers across the rating scale leads to no price discovery issuers rated below AAA.

- **Multilateral Institutions financing/ External Credit Agencies (ECAs)**

  Multilateral institutions, such as the World Bank and the Asian Development Bank, which have traditionally funded public sector infrastructure projects, are now willing to support private sector projects. These agencies can play an important catalytic role in the early stages of attracting the private sector into infrastructure. The transparency of their project evaluation procedures and their ability to benchmark an individual private sector project in a particular country against international experience of similar projects helps to avoid controversies that may arise about private sector projects. Their active involvement as lenders in a project can also help reduce risk for all the key stakeholders: the private sector, government, consumers and others.

- **Syndication**

  Syndication mode is used as a mode of financing for capital intensive infrastructure projects. Through syndication large amount of fund for long term financing of revenue backed projects can be arranged which would not have been possible by any single bank/entity. It can be used to finance big infrastructure projects. The risks can be shared among banks and the controlling of project implementation will be increased. Agencies like SBI Capital Markets (SBI Group company) have specialized in this segment. Many private sector banks like ICICI and YES BANK also have specialized syndication desks.

- **Take out Financing**

  Take out Financing is an innovative way for funding of infrastructure projects with reduced risk of asset-liability match. This financing allows banks to finance long-term projects through five to seven year money.

  Here the bank which is funding an Infrastructure project gets into an arrangement with a financial institution where the institution commits to buying / taking out the loan from the bank's books after an initial period.

  There are two versions of this arrangement i.e. unconditional and conditional take out finance.

The **unconditional finance** involves full or partial credit risk with the institution agreeing to take over the finance from the original lender.

Under conditional take out financing the institution commits to taking over the finance from the lending institution only if it is satisfied with certain stipulated conditions.

Take out financing is ideally suited for annuity and BOT type road and housing projects

Unconditional financing though not very common, can give a fillip to infrastructure financing by addressing both the willingness and the lack of experience of institutional investors to participate in infrastructure financing. Take out financing is not so popular in India.

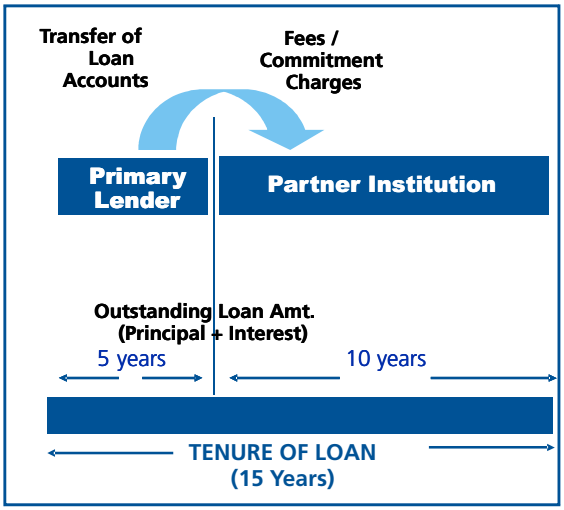


Figure 5 : Take out Financing

Project Equity

- **Foreign Direct Investment in Infrastructure**

  Foreign direct investment in infrastructure is possible through financial collaborations, Joint ventures, capital markets via Global depository receipts and private placements or preferential allotments. In India FDI upto 100% is permitted in most of the infrastructure sectors:

  - Integrated township development including housing, commercial premises, hotels &resorts.
  - City & regional urban infrastructural facilities.
  - Development of land with allied infrastructure as part of integrated township development.
  - Airports, ports, roads, Oil & Gas, etc

- **Project Initialization Fund**

  Project initialization funds are offered by development financing agencies to help project managers create well structured projects which are technically feasible, financially viable, and environmentally

sustainable. Financing through project initialization fund is common in Infrastructure projects of pioneering nature or feasibility risks.

- **Venture capital funds**

  A venture capital fund is a pooled investment vehicle that primarily invests the financial capital of third-party investors in enterprises that are too risky for the standard capital markets or bank loans. Financing through venture capital funds is common in Infrastructure projects of pioneering nature or feasibility risks. In last 5 years, various dedicated Infrastructure Funds have been set up in India by global leaders like Wachovia, 3i, Citigroup with funds ranging be USD 500mn to USD 2000 mn. Even local companies like ICICI (I-Ventures)/ IDFC have been pioneers in setting up dedicated venture capital funds in the country.

- **Viability Gap funding (VGF)**

  Viability gap funding is a special facility to support the financial viability of those infrastructure projects which are economically justifiable but not commercially viable in the immediate future. It involves upfront grant assistance to PPP projects that are implemented by the private sector developer. For example, in India grant assistance of upto 20% of the project costs are provided for state and central PPP projects being implemented by private sector.

  Viability gap funding scheme seeks to cover PPP's where recovery of investment would entail user charges that are unviable or undesirable. Seen in projects with high externalities. A typical VGF structure involves:

  - Private sector provides infrastructure services for a fee under a concession agreement.
  - Concession granted on the basis of transparent bidding process.
  - Bidding parameter is the capital grant sought.
  - Bidder is assured of a stable environment through a concession agreement.

Viability gap funding is now being increasingly used in financing urban infrastructure projects.

- **Government Guarantees / Grants**

  A general issue that arises in the context of financing private sector infrastructure projects is played by government guarantees. Private investors seek guarantees to cover a variety of circumstances. However, indiscriminate use of the government's guarantee power is not justifiable, since it involves a potential cost to the exchequer that becomes a real cost if the guarantee is invoked.

  The most logical use of government guarantees is to cover events over which the government has full control, such as nationalization, government action that forces interruption of the project, or non performance of specific government obligations. In all these cases extension of government guarantees reduces the perception of risk and therefore costs.

  Government guarantees may also be sought to backstop obligations of government-controlled entities when the guarantees of these entities are not commercially acceptable. For example, private power producers selling power to public utilities may insist on guarantees from the government to cover non payment for power, or they may expect the government to backstop guarantees of public sector fuel suppliers against defaults in fuel supply agreements. In both cases government guarantees are insisted on because of the lack of financial credibility of the buying and supplying organizations directly involved. The ideal solution in such cases is to improve the financial viability of these organizations so that their own guarantees can be credible. It however may take several years after a credible restructuring process has been initiated before these organizations gain full financial credibility in financial markets. During this period the guarantees of these organizations may not be acceptable, and government guarantees may have to be provided as an interim arrangement. Extension of government guarantees in these circumstances can be justified; provided the projects

meet high standards of viability and the more fundamental corrective steps are under way. In order to minimize the extent of guarantee exposure, the guarantees can be structured to include "fall-away" provisions, which are triggered as soon as certain credit benchmarks are achieved.

In India, many state governments provide their Guarantees for infrastructure projects which are implemented by state agencies like EDC Ltd being supported by Goa Government.

Quasi Equity / Mezzanine Financing

- **Mezzanine (Sub ordinate) debt Financing**

  A hybrid of debt and equity financing that is is typically used to finance the expansion of existing companies. Mezzanine financing is basically debt capital that gives the lender the rights to convert to an ownership or equity interest in the company if the loan is not paid back in time and in full. It is generally subordinated to debt provided by senior lenders such as banks and venture capital companies.

  Since mezzanine financing is usually provided to the borrower very quickly with little due diligence on the part of the lender and little or no collateral on the part of the borrower, this type of financing is aggressively priced with the lender seeking a return in the 20-30% range.

  Mezzanine financing is advantageous because it is treated like equity on a company's balance sheet and may make it easier to obtain standard bank financing. To attract mezzanine financing, a company must usually demonstrate a track record in the industry with an established reputation and product, a history of profitability and a viable expansion plan for the business (e.g. expansions, acquisitions, IPO).

  For e.g. many of the Road / Airport projects in India have been financed with a sub-ordinate debt portion ranging between 5-15%.

  Few other innovative models used for financing PPP projects have been applied in segments like Urban Infrastructure. We discuss in detail the Urban Infrastructure segment:

Public Private Partnerships and Urban Infrastructure

Urban India currently contributes over 50% of the country's GDP while ~28% of the population is domiciled in urban areas (Census 2001). Despite their growing importance in the economy, Indian cities do not have sufficient infrastructure facilities, and there is now a focus on developing cities at par with international standards.

There are two distinctly types of city development models and they require totally different development approaches:

- Suburban developments around existing towns – which caters to and exploit the existing manpower and other pools of resources and generate economic activity surrounding large economic masses in existing metropolitan cities. Examples include Gurgaon (Delhi), Navi Mumbai (Mumbai), Rajarhat (Kolkatta)
- New industrial / economic activity centres – which will bring large and new economic activity and will develop support services and city infrastructure around them

However there is no 'one size fits all' model and has to be customized as per the requirement.

The local/state authorities are finding that the existing water, sanitation, energy and other urban infrastructures are unable to service the rapidly expanding urban population. In addition, governments realize that the financial resources available to them are limited and not sufficient to cover the needed expansion of these services. Even where the government does find the resources to subsidize public utilities, service is often poor and sectors of the population largely un-served. It is becoming increasingly clear that governments cannot meet the continually growing demand for water, waste, energy and other urban services acting alone.

The reluctance on the part of the private sector to assume commercial risks is magnified in a majority of the urban infrastructure sectors. One of the primary reasons being that urban infrastructure involves dealing with second and third-tier governments, which brings additional challenges of legal, policy, regulatory and implementation. The urban sector is also largely marked by non recovery of tariffs, inadequate user charges, poor efficiencies in basic service delivery, poor capacities in the urban local bodies (ULBs), lack of proper service orientation among civic managers and reluctance to reform laws, regulations and policies that encourage and enable private participation in urban infrastructure. All put together, many of the urban infrastructure sectors are perceived as high risk and low return, resulting in little, if any, private capital inflows.

Nevertheless, cities and local governments are looking to increasingly involve the private sector in financing and providing infrastructure services especially through reforms supported by the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). A provision of Rs. 500 billion has been made as Central assistance for the entire JNNURM for a period of seven years beginning from 2005-06. A corresponding amount of Rs. 500 billion would come from the State Governments and Urban local bodies (ULB).

One of the means of funding explored by municipal bodies are Municipal bonds, which are being increasingly adopted by the more affluent municipal bodies.

- **Municipal Bonds**

Municipal bonds are the ideal instruments for raising resources, channelling funds from the capital market into infrastructure development. They are long-term in nature, unlike bank loans that are of limited tenure of three to five years. Instruments with a longer maturity increase the ULBs' capacity to finance long-gestation infrastructure development projects. Debt Markets also increase Urban Local Bodies' access to capital for tax-supported projects. Moreover, municipal bonds-backed financing maintains community ownership of infrastructure-related projects: it keeps public assets in public hands. From an investor

perspective, municipal bonds offer significant opportunities; there is clearly a potential for municipal bond issues to find a large investor base.

The use of municipal bonds for financing local government services is increasing in India but it is still not widespread. Creditworthy local governments with sizeable bond issues have been able to access the bond market. However, such large local bodies are small in number, and smaller local bodies have been unable to take recourse to this financing avenue due to their lack of creditworthiness and the smaller size of their investment requirements.

Ahmedabad Municipal Corporation (AMC) Bond issue.

AMC was the first ULB to access the Indian capital market for a bond issue size of Rs. 100 crore and was the first municipal bond without state government guarantee in 1998. It was the first to get a municipal credit rating in 1996. It had an annual interest of 14% and 7 year tenure. The bond was privately placed to an extent of 75%. Credit enhancement measures included: Escrow account for octroi revenues (entry tax), a sinking fund for principal payment, and DSR of 1.5 for principal repayment. The debt raised was utilized to implement a bulk water supply project and helped 60% city's of population (including low-income settlements) at Ahmedabad.

- **Pooled Finance**

In countries like India, where market access is limited to a handful of entities that can either borrow on their own credit or have a sovereign guarantee backing, pooled financing provides an alternative bond financing approach for smaller, less experienced and less creditworthy local governments. This approach allows smaller cities to join in combined bond issuance through a special purpose vehicle/intermediary.

Pooled finance works best where a series of municipalities have small projects and are willing to structure them in a similar fashion. The pool sets the standards for the projects, e.g., all are water supply and define the collateral requirements to be met by each individual borrower. Pooling in this manner provides significant savings in loan origination costs and is less of a repayment risk to investors as the risk is spread among the pool of borrowers.

Under the pooled financing mechanism, a number of infrastructure projects will be pooled together and debt finance raised. The cash flows from them will be escrowed into a special bank account from which the bond investors will be repaid. This arrangement helps in risk diversification. Then less economically viable, but socially useful projects, can bandwagon on the more bankable projects. Tamil Nadu and Karnataka are the only to states two have raised resources from the market through the pooled finance route.

Tamil Nadu Water and Sanitation Pooled Fund (WSPF)

The Tamil Nadu WSPF, a trust, set by state government and Tamil Nadu Urban Development Fund. WSPF issued a tax-free bond (Rs. 300 million) by pooling 14 municipalities' proposals for infrastructure projects. The bond had an annual interest 9.2% and 15-year tenure. It was privately placed and the proceeds were used for financing water supply and sanitation projects. Credit enhancements measures included: escrow accounts funded by municipal revenues, state-funded debt service reserve service fund, and USAID guarantee of 50% of principal.

A Pooled Finance Development Fund (PFDF) of Rs 4 billion for the 10th Five Year Plan period, has been set up to help ULBs finance their investment needs. This PFDF will provide ratings enhancement facility through a Credit Rating Enhancement Fund (CREF) and raise the credit worthiness of all bond offerings to investment grade. This additional credit protection to the ULBs and the lenders/investors is expected to reduce the costs of capital. The ULBs will have to access the market through a State Pooled Finance Entity (SPFE) and will purchase guarantees from financial institutions willing to underwrite the risk of a cash-flow shortfall.

- **State level Urban Development Funds**

State level urban development funds are financial intermediaries that provide credit to local government and other institutions investing in local infrastructure. They have independent existence and the funds are capitalized by Federal grant and state grant. These funds rely on common financial tools; can attract private sector capital to increase total funds for a project. It ensures enhanced credit returns at poor level promotes lower debt service costs to municipalities.

State level funds have been created in India viz. TNUDF in Tamil Nadu for facilitating private sector participation bringing in commercial orientation, improving financial management assisting ULB's accessing capital markets.

TNUDF is the first public-private partnership providing long term debt for civic infrastructure on a non-guarantee mode.

TNUDF

TNUDF was established on November 29, 1996, as a trust under The Indian Trust Act 1882, for the development of urban infrastructure in the state of Tamilnadu. 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 review the lending policies and procedures. Under the TNUDF loans to municipalities have been made at rates approximating market rates of interest.

Social Equity Based PPP Model For Urban Infrastructure Development

India has seen an accelerating economic growth in recent years which has undeniably been the catalyst for development and significant wealth creation. However income and wealth distribution has been excessively skewed. This has been behind recent instances of conflict activism and dispute.

Inspite of this business continues to flourish and support efforts by policymakers & other stakeholders to sustain this economic boom. Government and businesses are beginning to recognize the vital need for development to encompass and empower the disadvantaged, and support integration in the national and global economy. Private sector has on its part led some innovative interventions, however these efforts so far have been individual and beneficiaries have been few. Within this addressing infrastructure bottlenecks remains a priority.

It is from this perspective that a 'Social equity model' has been structured by YES BANK based on PPP principles. It recognizes the aspirations of local (host) community and enables the participation of less advantaged in larger development efforts. The Social Equity Model attempts to holistically include the local community as a partner and is an enabler of development linkage with the rural /poor masses.

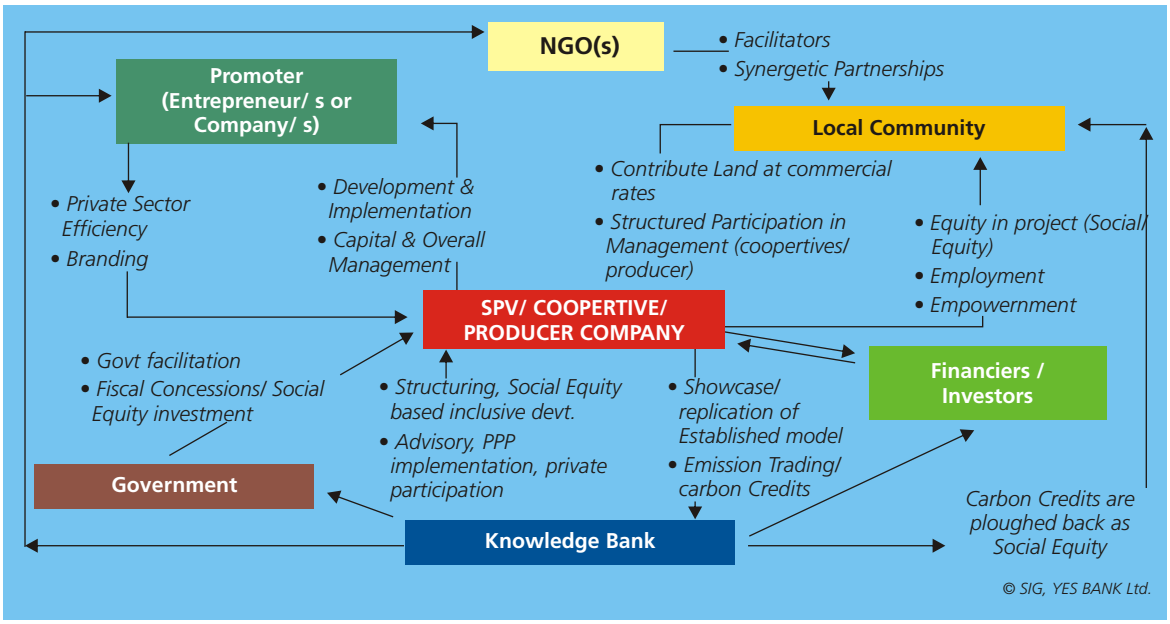


Figure 6: Social Equity Model

The Social Equity Model can be applied to all the sub-sectors within urban infrastructure. However, one of the best fits for this model would be in the area of **low cost housing for the slum-dwellers**. Due to wide-spread urbanization, the one major issue being faced in urban centres is that of housing for the under-privileged and poorer sections of society. This has manifested itself in the mushrooming of haphazard and badly maintained slums across urban centres.Through the Social Equity Model, the urban authorities can provide low cost housing as an alternative to these slums. Another area where the model could be used is in the provisioning of **low cost shopping arcades** that would house small vendors and other service providers. This model can also be used for **transportation providers**. Here instead of land,

the community can participate through capital in the form of vehicles. Thus, the Social Equity Model can be modified appropriately depending on the nature of the sub-sector, the expected cash flows and the level of community involvement.

Infrastructure development on these lines can address several of the society driven hurdles and challenges faced today. It can be applied across PPP based infrastructure development and should reverse integrate to be included as a component of governments policy to facilitate this as a concept for mass development.

Conclusion

Public Private Partnerships are being increasingly accepted by policymakers in the country as a viable means for bridging the infrastructure investment gap and delivering services. The central government's commitment to the PPP approach is evident in its decision to adopt it in the modernization and up gradation of ports, metro and non-metro airports and also in the National Highways Development Project. A growing number of states, for their part, are establishing dedicated PPP units and enacting legislation to assist in streamlining PPPs for project procurement. Policy and regulatory frameworks for private participation have also been strengthened over the past decade to scale up PPPs in certain sectors.

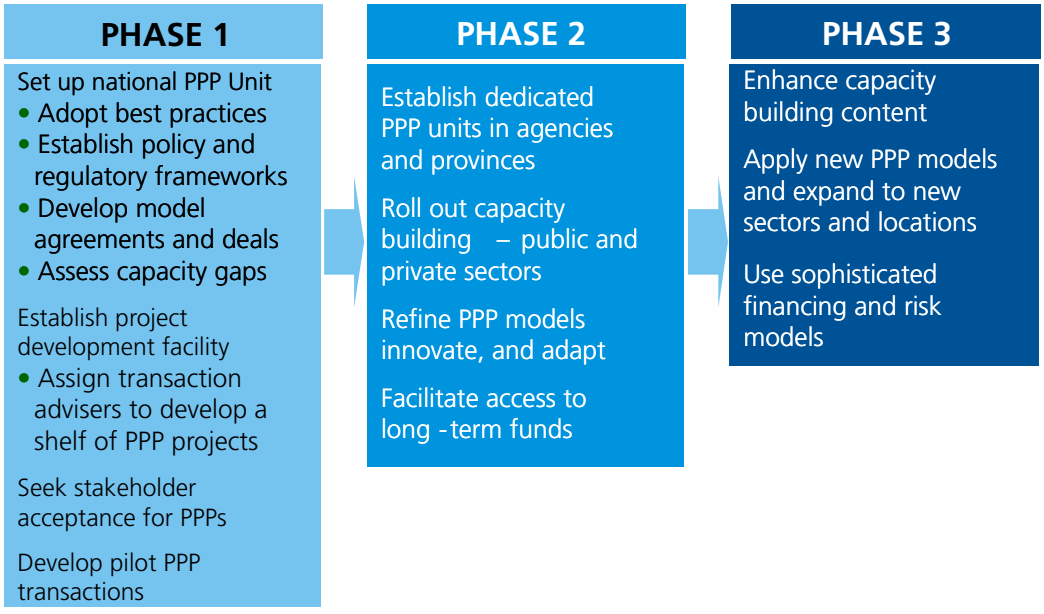
That finance is not a binding constraint in developing PPPs is evident from the strong interest in setting up infrastructure equity funds. This is also evident from the innovative financing mechanisms, detailed earlier, that have been developed under PPPs to supplement and leverage existing limited resources.

While progress has been made, it is clear that the larger constraints exist in the form of policy and regulatory environments and inadequate capacity to structure projects and more efforts are, therefore, required.

Efforts on the policy and regulatory side will mean reducing the uncertainty surrounding public-private partnership projects in order to increase the confidence of investors. This could involve enacting new legislations for private participation in infrastructure or suitably amending existing ones The legal instruments may specify, among other things, the general conditions for PPP models, provision of financial and other incentives, and details of project development and implementation arrangements.

On the capacity side, efforts will be required in developing a pipeline of credible and bankable PPP projects where investors can deploy funds. This would mean that adequate amount of preparatory work, including with respect to bankability and financial viability, options for raising the finance required, risk sharing, stakeholder consultations be carried out before inviting the private sector to participate in order to avoid delays and consequent cost overruns

Considering that public private partnerships have reached the stage where they have gained acceptability in India but constraints still exist, we suggest a three phased approach to mainstreaming PPPs shown in the figure.



Source: ADB

Figure 7: Three Phased approach to Public Private Partnerships

On the one hand, the objective of mainstreaming PPPs should be to increase private participation for additionality and efficiency gains in sectors that can be commercialized.

On the other hand, the objective should be for governments to expand the ambit of PPPs to urban infrastructure (water, sanitation, solid waste management) with innovative mechanisms that leverage limited government resources and are developed in collaborative partnerships with the private sector, government and the community. The Social Equity Model developed by YES BANK is one such innovative tool which includes the various stakeholders and works as an enabler for the development of public private partnerships in urban infrastructure.

Developing and implementing PPP projects can be formidable and their success will be dependent on the overall environment that is created by government. Successful public private partnerships will require:

- A comprehensive policy and institutional framework for implementing public private partnerships, particularly for sectors amenable to PPPs
- Preferred scheme for each sector
- Designating specific government agencies with responsibility for implementing these partnerships
- Defining the types of support available from govt e.g., off-take contracts, guarantees, land acquisition and subsidies.
- Model contracts
- Preparing and prioritizing a pipeline of financially and economically viable projects to which funds can be deployed

Overall, significant progress has been made in laying some of the groundwork for private participation in infrastructure. However, for Public Private Partnerships in infrastructure, and particularly urban infrastructure, to take-off in a large way, more needs to be done with respect to appropriate sectoral policy environment, developing a shelf of bankable projects and demonstrating the feasibility of public private partnerships through demonstration projects.

Glossary

BOO	Build-Own-Operate
BOT	Build-Operate-Transfer
BOOT	Build-Operate-Own-Transfer
BBO	Buy-Build Operate
DBO	Design-Build-Operate
LDO	Lease-Develop-Operate
EUL	Enhanced Use Leasing
BDO	Build-Develop-Operate
ECB	External Commercial Borrowings
ECA	External Credit Agencies
VGF	Viability Gap Funding
SPV	Special Purpose Vehicle
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
ULBs	Urban Local Bodies
AMC	Ahmedabad Municipal Corporation
WSPF	Water and Sanitation Pooled Funds
PFDF	Pooled Finance Development Fund
SPFE	State Pooled Finance Entity
TNUDF	Tamilnadu Urban Development Fund
TNUITCL	Tamil Nadu Urban Infrastructure Trustee Company Limited

YES BANK, India's new age private sector Bank, is the outcome of the professional commitment of its main Promoter, Rana Kapoor and his highly competent top management team, to establish a high quality, customer centric, service driven, private Indian Bank catering to the "**Future Industries of India**".

YES BANK has adopted international best practices, the highest standards of service quality and operational excellence, and offers comprehensive banking and financial solutions to all its valued customers. A key strength and differentiating feature of YES BANK is its knowledge driven approach to banking and an unprecedented customer experience for its retail and wealth management clients.

YES BANK is steadily building corporate and institutional banking, financial markets, investment banking, corporate finance, business and transaction banking, retail and private banking business lines across the country. The Bank's constant endeavour is to provide a delightful banking experience expressed with simplicity, empathy and totality.

Formerly known as the Greater Mysore Chamber of Industry (GMCI), Bangalore Chamber of Industry and Commerce (BCIC) was set up in 1976. Since inception, BCIC has personified the entrepreneurial spirit in Karnataka. It is a non-profit association dedicated to serving the industry through excellence in professional development, information and standards.

BCIC represents 95 per cent of the Capital Investment and 90 per cent of the Labour employed in the Corporate Sector of the State.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