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How to fix PPP financing

Structuring infrastructure PPPs is complex. Optimal risk sharing among stakeholders is needed. Also, delays in achieving project milestones weaken project economics and reduce investor appetite

Bruno Carrasco & Vivek Rao December 5, 2015
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"Make in India'' programme envisages India increasingly becoming a global manufacturing hub, attracting investment, and generating the employment needed to grow the economy and power it to middle income status and beyond.

But the hard reality is that attracting investment in India will hinge on filling the sizable infrastructure investment gap. Whether to service the vast domestic market or target export markets, the success of "Make in India" will require overcoming delays in infrastructure investment and implementation.

Until recently, public investment has been the main vehicle for infrastructure development in India. Since 2012, however, the government has shifted some of the focus away from public spending. The

Twelfth Five Year Plan envisages the private sector contributing $500 billion - about half of the $1 trillion of investment planned - primarily through public-private partnerships (PPPs).

However, structuring infrastructure PPPs is complex. Optimal risk sharing among stakeholders is needed to ensure a proper alignment of incentives. This is especially true in India where adequate project development requires detailed feasibility studies, negotiating complex land acquisition processes, obtaining environmental and forest clearances, and mobilising scarce equity. Delays in achieving project development milestones weaken project economics, resulting in completion delays and reduced investor appetite.

A recent study commissioned by the Asian Development Bank and undertaken by CRISIL Infrastructure Advisory found that on average 40 per cent of projects in major infrastructure sectors are delayed for reasons beyond the project's control. The reasons include delays in land acquisition and obtaining environmental and forest clearances beyond the time envisaged in the concession agreement, along with interstate coordination issues and local protests. Delays of two years are the norm, resulting in average cost

increases of around 30 per cent - mostly due to accumulating interest costs during the delay period and cost escalation. These account roughly in equal measure for the resulting cost escalation.

Moreover, with infrastructure accounting for around 30 per cent of stressed assets, banks are increasingly unable and unwilling to lend further to infrastructure. While the Reserve Bank of India's (RBI) guidelines allow banks to fund additional "interest during construction" (IDC) to stressed projects, this still requires banks to take on additional risk exposure to stressed projects and fund accumulating costs.

This makes financing infrastructure a hard sell, given that banks are reaching exposure limits and face asset liability management mismatches on their balance sheets. Many banks in India have already begun to limit their infrastructure exposure. Against this backdrop, it is not surprising that the high-level Deepak Parekh committee on infrastructure has scaled down its achievable infrastructure investment estimate by nearly 40 per cent for the Twelfth Plan.

The good news is that there may be a solution. Drawing from global experiences in several PPP markets, notably in Latin America and Indonesia, a

potential solution can be fashioned that could help both investors and lenders alike. The solution entails establishing a facility that guarantees servicing interest to banks during delay periods, so long as the delays are beyond the control of the project. Under this arrangement, the project developer would apply for a guarantee from the proposed facility against delayed interest payments by paying a fee prior to financial closing, and negotiate a reduction in bank charges that would compensate for the guarantee fee. Interestingly, this is also beneficial to banks because even though they are charging lower rates, they are no longer subject to completion delay risk. Subsequently, the facility becomes a lender to the project and recovers the paid-out amount by way of senior or subordinate debt. The advantage of the subordinate debt structure is that it reduces the additional equity needed to fund the cost escalation and to maintain a constant debt-equity ratio in accordance with RBI guidelines.

The proposed mechanism addresses several issues in one fell swoop. First, the facility would secure developers' interest obligations due to delays and potentially reduce the incremental equity needed to fund cost escalation. Second, because the risk profile of projects would improve, banks would be able to expand financing for guaranteed projects.

Next, non-performing assets and restructuring would be reduced as interest payments would be serviced through the guarantee facility.

The proposed facility would also expedite financial closure and reduce delays resulting from re-negotiating bank lending to already stressed projects. Finally, the facility promises a more effective use of capital against reduced downside risks from adverse selection, which can be mitigated by pooling guaranteed projects.

The trick is of course in getting the pricing right. The guarantee fee and the terms of the subordinate debt must hold value for both the facility and the project developers.

For the government, getting investments into essential infrastructure projects will help it to deliver on the promise of "Make in India". But it will also require innovative solutions to significantly scale up investment. It cannot afford facing further delays in the drive to bridge the infrastructure investment gap. The proposed project completion risk guarantee scheme represents a win-win-win situation for government, financiers and developers alike and is worth pursuing in the interest of current and future generations of Indians.

India's PPP story: A glass half-full

Balanced risk-sharing, robust dispute mechanisms and adequate exit norms needed to foster PPP success in India

By: Manish Agarwal | October 17, 2015

Almost everyone has heard about the classic "glass is half-full or half-empty" parable, which shows how perceptions cloud human judgement. The story of PPP models seems to be similar. The moment the PPP model is mentioned in India, the immediate reaction is about how it has failed. No doubt, there have been a few failures in the PPP model during the past decade—such as in some power and metro rail projects—but that is not the complete truth about PPP projects.

There have been significant success stories where projects were well implemented—such as in roads, ports and airports. Unfortunately, the failures have been red-flagged, while success stories have not been prominently flagged. Besides other lacunae, the communications failure needs to be addressed when resolving PPP problems.

The PPP model is particularly important in infrastructure projects where noteworthy success stories have been overshadowed by a handful of failures. Unfortunately, failures sometimes have more traction in attracting attention than success stories. In recent years, some of India's—and the world's—best airports have been built through the PPP model. But these are conveniently overlooked, as the media focuses on some pain points that are inevitable in projects involving land acquisition, construction, environmental clearances and other contentious issues.

It is time to put these issues behind and focus on reviving the infrastructure sector. This is imperative, given the ambitious infrastructure plans the government has—such as Housing for All, 100 Smart Cities—and the stiff goals in increasing capacities of power projects, in conventional as well as renewable energy.

To revive the infrastructure sector, three steps are needed. The first is to kick-start the construction cycle by boosting public spending, which is already under way. The second is to address the financial stress in the banking system, largely caused due to infrastructure assets. This step is being discussed. The third is revisiting the PPP model in order to

attract investors back to the sector. While some progress has been made here, particularly in national highways, it can serve as a good opportunity to learn from past experiences.

Busting the myth that user charges are necessary for PPPs would be a good starting point to avoid repeating past missteps. User charges comprise part of the government's financing strategy and complement tax revenues. Pricing of public goods will remain a political issue, as will the need for subsidising the lower economic strata of users.

Therefore, deciding the user charges policy, and its implication on the extent of financing possible for capacity augmentation, needs to be independent of the role of PPPs in the sector.

Next comes busting the myth that PPP is a new source of capital, and can fill the gap between requirements and what the government can fund from other sources. Private sector capital is raised on the basis of future cash flows available to service the capital. Future cash flows—whether user charges or annuities—are enabled by the government, and can be leveraged for raising capital in the private or public sector. The private sector's role in PPP is to actually commit to life-cycle costs

and service levels, which can lead to better leveraging of future cash flows. For the PPP model to be viable, the efficiency differential needs to overcome the cost of capital differential.

With these two myths addressed, the following key elements can lead to better alignment of PPP to areas where the private sector can genuinely make a difference.

* Finance plan ahead of delivery plan: Each sector should prepare long-term investment and financing plans to identify revenue sources (user charges, tax revenues and others) as well as the extent of financing that can be enabled. This will highlight any gap between capacity increase needed and the capacity increase that can be afforded, through visible financing sources. Bridging the gap would require additional revenue sources or capital subsidy, which will need to be identified. Thus, the delivery plan should articulate the value expected to be delivered by PPP and thereby lead to a PPP concession structure (or risk-sharing) that is aligned to the expected role of the PPP (or areas of efficiency).

* De-risk concession structures: Focusing concession structures on areas of efficiency to be

delivered by the private sector will require that risks the private sector has no control over are not transferred. In addition to turning a laser-sharp focus on performance, it will attract the right set of investors seeking long-term steady returns. But bringing predictability (lower risk) will require some steps.

(a) Identify and address controllable factors: "Plug and play readiness" of projects is imperative, and issues such as land acquisition and permits and clearances would need to be resolved ahead of the bidding process. Similarly, any other controllable parameter would need to be addressed, instead of being left unaddressed as an uncertainty (risk) in the future.

(b) Minimise speculation on uncontrollable factors: In "single-number" comparisons by the government, there is no distinction between diligent bidders and speculative ones. The argument that investors and their lenders are responsible for the risks they take is fallacious, as recent experiences show. In addition to eliminating speculative factors (such as future traffic) from being a source of competitiveness, the government should scrutinise uncontrollable factors (such as inflation). A detailed comparison of the assumptions

underlying each bid will help identify whether competitiveness is arising from efficiency and innovation, or from ignoring reasonably predictable risks. Such comparative evaluation, and negotiations on technical proposals, will require bidders undertake adequate diligence in submitting a proposal, making information asymmetries visible to the authorities. But for this to remain fair, and not discourage innovation, the rules about where corrections will be permitted, and at what level it will trigger disqualification, need to be clear.

(c) Renegotiation for unpredictable factors: Finally, there may still be unanticipated developments that impact the project. The above steps, combined with a largely performance-based project structure, will minimise such an impact. Detailed scrutiny during evaluation will provide a baseline to compare the impact of unpredictable outcomes, fostering a relatively transparent framework for renegotiation. Several contracts contain the provision that the developer would be put back in the "same economic situation" in case of developments such as "Change in Law". The baseline will help in making the implementation clear.

* Use PPPs beyond new-build: With PPPs being a tool to lock in efficiency commitments, its

application becomes much wider than for new-build only. A fairly large part of government spend, particularly state level, is in operations and maintenance. Here, the scope for improving efficiency is significant. Use of long-term operations and/or maintenance contracts can bring in performance commitments and associated payments. Wherever this is expected to be visibly lower than government spends, it would make for a viable PPP. The cost savings can be channeled back into new-build. Further, in some sectors, if direct benefits transfer separates subsidy delivery from service delivery, it will become easier to design user-charge based projects (where revenue predictability is high).

Undoubtedly, while there are some lacunae in the PPP model, these can be resolved. Should a balanced PPP model come into force, with realistic risk-sharing and robust dispute mechanisms along with reasonable exit norms, private players may once again be able to enjoy sunny days while undertaking infrastructure projects across India.

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Making India's agriculture sustainable through PPPs

Siraj Chaudhry, Mint, Tue, Nov 03 2015.

In the years since its independence, India has made immense progress towards food security. Indian population has tripled and food grain production more than quadrupled; there has thus been substantial increase in available foodgrain per capita.

However, agriculture has the potential for major productivity and total output gains increase because crop yields in India are still just 30% to 60% of the best sustainable crop yields achievable in the farms of developed as well as other developing countries.

Additionally, losses after harvest due to poor infrastructure and unorganized retail has led India to experience some of the highest food losses in the world.

Several studies suggest India could eradicate hunger and malnutrition, and be a major source of food for the world, by striking a balance between calories and nutrition with a focus on better farming practices and adopting protein-based crops; encouraging food processing industry to make alternate crops worthy of consumption; developing rail and road infrastructure and cold chains; enhancing the food safety and commercial and regulatory environment.

Clearly, there is need for change and to create an enabling environment for agriculture that needs to respond not only to longstanding issues and challenges, but also to newer realities. The natural resources on which agriculture is based—land and water, above all—are becoming degraded and there is growing competition for their use. Climate change is already exacerbating this situation, making agriculture more risky, and it will have an even greater impact in the future.

A major game changer for the agricultural sector can be the public private partnership (PPP) model. PPPs, which bring together the collective power of all the stakeholders in the agricultural ecosystem—the government, private companies, and even education and research and development—can transform the sector at multiple levels. With the government providing and co-financing the back-end of the value chain, and the private sector and farmer contributions doing the rest, the agricultural sector can still remain as a primary engine of rural growth and poverty reduction in India.

The PPP model can be used effectively for the following:

Investing in smarter value chains

The government and private sector can come together, for instance, to spur the development of the food-processing industry—one of the sunrise sectors within the agricultural domain. It is important that the industry expands its mandate to go beyond just increasing the shelf life of food, preserving food nutrients and providing fortified products. Rather, the processing industry, supported by investments by the government and the private sector, can now look at providing farm

extension services, enhance price realization, cut out intermediaries and improve the supply chain through forward and backward linkages.

An important role of the government, besides funding through the PPP, will also be to create an enabling environment for private investment. This needs to be done through tax rationalization, duty exemptions, increase in public spending, priority sector lending and foreign direct investment (FDI). It is steps such as these that will catalyse private sector investments in supply chain infrastructure and services, leading to a reduction in waste and greater value-addition.

Improving access to credit, technology and markets

PPPs are needed that introduce India's agricultural sector to the state-off-the-art. Information technology (IT) and biotechnology have the potential to transform agriculture, raising its production levels and outputs. PPPs targeted at offering farmers vital information, methodologies as well as new-age tech tools are the need of the day. Technology can bring to farmers critical knowledge and guidance on matters related to crop rotation, weather patterns, fertilizer use, going organic—all

at the click of a few keyboard keys, or better still, a simple text message on from their mobile phones.

Biotechnology, meanwhile, can equip growers with techniques that help them develop high-yield crops, manage pests, better utilize waste water and focus on nutrition. The beneficial impact of technology has found reflection in the remarkable turnaround and breakthroughs that have been made in the cereal production industry. This success can be replicated in crucial areas, such as oil seeds and pulses, which are highly import-intensive, through PPPs.

In the same way, PPP projects, targeted at helping farmers connect with their marketplaces and financial institutions for micro-funding, can usher in massive alterations in the rural economy.

Building farmer resilience to environmental shocks

India's farmers are constantly threatened by adverse weather and environmental conditions that spell disaster for their produce. Extreme situations,such as flooding and droughts, constantly plague India's farming community, and PPPs that immunize the agricultural sector against the vagaries of nature can be lifesavers. In fact, in a

country where farmer suicides are common, such interventions can actually save lives. PPPs that help the agricultural sector deal with weather shocks, and enable farmers to de-risk themselves through insurance, etc., can emerge as a crucial helping hand.

While PPPs in the agri-space are not commonplace, they now need to be. A start has already been made by the Maharashtra government, which has rolled out its Maharashtra Public-Private Partnership for Integrated Agricultural Development (PPPIAD) project. PPPIAD, a successful PPP enterprise, is showing the way to other Indian state governments. Under the aegis of this initiative, Maharashtra—the first state to take this innovative path—is developing integrated value chains for selected crops through PPP and co-investment.

Catalysed by the World Economic Forum's New Vision for Agriculture (NVA), the PPPIAD aims to develop integrated value chains. What began with 11 projects in 2012-13, now encompasses 33 value-chain programmes in 2014-15 with more than 60 participating companies. Focused on 15 key crops, the project has reached almost half a million farmers to date with a target to reach five million by 2020.

PPPs like the Maharashtra project are indeed the way to go for India's agricultural sector. They are proving to be an important step in renewing and rejuvenating rural economies and leading them to inclusive and sustainable growth.

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PPP In The Rail Sector - Challenges For Modernizing India's Rail Network

Article by **Ran Chakrabarti, IndusLaw**

1. Introduction

Back in February this year, India announced an ambitious rail budget, proposing to invest almost USD 16 billion in rail projects over the coming year.[1] Previously, in December 2014, it had further liberalized the sector to permit foreign direct investment of up to 100 per cent across a range of rail assets, including the construction, operation and maintenance of high-speed, suburban and freight corridors, signaling and infrastructure projects and the manufacturing and maintenance of rolling stock.[2]

What opportunities does this open up for the private sector and more importantly, will the private sector consider the terms and risk allocations in this sector predictable enough to invest or lend?

2. The Vision

The current Indian Government certainly can't be accused of lacking vision. It's proposal to create a 6,500 kilometer '*Golden Quadrilateral*', linking Delhi, Mumbai, Chennai and Kolkata, with separate high speed lines proposed to link Mumbai with Delhi and Kolkata are certainly ambitious.

But are they practical and what are their chances of implementation? Answering to parliament last year, the then Rail Minister, Dr. V. S. Gowda responded that of the 674 projects sanctioned over the last 30 years,worth INR 1.5 trillion (approximately USD 25 billion), just 317 had been completed.

The potential costs of high-speed rail are staggering. Current best estimates suggest that the cost of constructing one kilometer of high-speed track would be in the region of USD 16 million to USD 22.4 million.[3] By extrapolation, to build 10,000 kilometers of track connecting India's metros could cost up to USD 225 billion. To put that into

perspective, it would need expenditure equivalent to 14 years of India's total current rail budget.

Although the railways came early to India, currently, it does not have a single kilometer of high-speed track. Post independent India's track record on expanding the rail network has not been good. In 1947, independent India took over a legacy of 55,000 kilometers of track. By 2011, the country's rail network stood officially at just under 65,000 kilometers, implying that 10,000 kilometers of new track had been added to the system in 64 years since independence.

Compare that to China. In 1947, it had approximately 27,000 kilometers of railway track. Today, it has an estimated 78,000 kilometers of which high-speed track (facilitating rail travel in excess of 200 kilometers per hour) accounts for 16,000 kilometers (which is more than the length of all the rest of the world's high speed train track combined).[4]

So how did the Chinese do it? Essentially, they funded it through the Chinese Government's economic stimulus program. Technology transfer agreements with foreign manufacturers such as Alstom, Siemens, Bombardier and Kawasaki

permitted the construction of the high-speed trains and Chinese engineers essentially back-engineered train components to build their own indigenous trains capable of speeds of up to 380 kilometers per hour. In all, the Chinese Government has committed to spending USD 300 billion to build 25,000 kilometers of high-speed rail network by 2020 (that works out to be approximately USD 12 million per kilometer).[5]

But it hasn't been plain sailing for the Chinese either: high ticket prices and low ridership raises broad question-marks about the economic future of high speed train travel across vast distances, especially if it is cheaper to fly the same distance in a fraction of the time.

3. Current Plans

Turning to current plans in India, INR 1 billion (USD 16 million) has been earmarked by the Government for the preliminary construction of the proposed 573-kilometer Mumbai to Ahmedabad high-speed line (the "**Mumbai-Ahmedabad Line**").

In December 2014, the Government of India announced its intention to allow Indian Railways to

float tenders for 20 projects worth almost USD 15 billion for private investment.

3.1 The Dedicated Freight Corridors

The World Bank and the Dedicated Freight Corridor Corporation (the "**DFCC**") announced in December 2014 that it had signed a USD 1.1 billion loan agreement which will finance the 393 kilometer second phase in Uttar Pradesh, part of the 1,800 kilometer eastern dedicated freight corridor from Ludhiana (in the Punjab) to Dankuni (near Kolkata) (the "**Eastern Corridor**").

The DFCC is a special purpose vehicle incorporated for the planning, construction, operation and maintenance of the Eastern Corridor and the 1,500 kilometer western dedicated freight corridor from Dadri (near Delhi) to Jawaharal Nehru Port, (near Mumbai) (the "**Western Corridor**").

It is understood that Indian Railways has acquired 91 per cent of the 11 hectares of land necessary to construct the Eastern Corridor and the Western Corridor, requiring a total investment of approximately INR 900 billion (USD 14.4 billion) to construct.

The Western Corridor has been split into 5 sections and according to publically available information, the EPC contract to construct the 626 kilometer section between Rewari (near Jaipur) and Iqbalgarh (on the Rajasthan-Gujarat border) was awarded to a consortium formed by Larsen & Toubro and the Japanese contractor, Sojitz[6] and is expected to cost in the region of INR 67 billion (USD 1.1 billion).

It is reported that almost all land relating to the construction of this section of the Western Corridor has been acquired, along with all necessary approvals for construction and it is estimated that the stretch will take 4 years to build.

It is further understood that the DFCC will tender the 322-kilometer stretch linking Iqbalgarh to Vadodara to Sojitz or Mitsui and it is expected to cost in the region of INR 35 billion (USD 560 million).[7]

The Western Corridor is being funded entirely by the Japanese International Cooperation Agency ("**JICA**") to the tune of USD 5.68 billion, repayable over 40 years. It is understood that the terms of JICA's financing requires the consortium to be headed by a Japanese company and further, that 30 per cent of

the materials for construction need to be sourced from Japan.[8]

3.2 Rolling Stock

Public private participation in the manufacturing of rolling stock is not new in India and concession agreements have been granted in the past for the construction of freight wagons.[9]

Current plans on the slate in relation to rolling stock include the proposed USD 240 million coach factory in Kolar in Karnataka (one of the last cabinet approved decisions of the Congress led Government in 2014).

The factory, to be constructed through a joint venture between the Indian Railways and the State of Karnataka, plans to produce 500 passenger coaches a year. Indian Railways currently has an operational fleet of approximately 52,000 coaches, and aims to add an additional 44,000 by 2020.

Other rolling stock projects include a proposed INR 12 billion (USD 194 million) scheme to manufacture 500 multiple unit cars a year in West Bengal and an INR 5.5 billion (USD 90 million) project to manufacture 400 aluminum coaches in Kerala.

3.3 High-Speed Lines

The High Speed Rail Corporation of India Limited was incorporated in October 2013 to consider high-speed rail projects. It is proposed that it will handle pre-feasibility studies, tendering and the award and execution of projects. It is anticipated that these high-speed rail projects will be executed through the public private partnership mode on a design, build, finance, operate and transfer model (the "**DBFOT Model**").

Two high-speed projects have been identified for public private partnership and foreign investment. The proposed Mumbai-Ahmedabad Line (discussed above) will be executed through either through a DBFOT Model, or otherwise built through inter-governmental agreement.[10]

The other proposed high-speed line currently identified is the Chennai-Bangalore-Mysore line. A feasibility study being conducted by the engineering arm of China Railways is currently in progress.[11]

China Rail Corporation is also currently conducting a survey of the proposed 2,000 kilometer Delhi, Bhopal, Nagpur, Hyderabad, Chennai route which is being carried out free of charge. The cost of

constructing this line is an estimated USD 32 billion. It should be noted that 12 other consultancy firms have also submitted bids to carry out feasibility studies for the proposed Delhi-Mumbai, Mumbai-Chennai and Chennai-Kolkata high-speed lines.

3.4 Suburban Lines

Suburban projects on the slate include the 50-kilometer Chhatrapati Shivaji Terminus to Panvel line in metropolitan Mumbai, expected to be executed under the DBFOT Model, costing an estimated INR 140 billion (USD 2.25 billion).

4. Public Private Partnership

The lynchpin of any public private partnership (and any DBFOT Model) is the concession agreement between the relevant public sector authority (in this case, the Ministry of Railways) and the private sector entity proposing to execute the project (invariably, a sponsor incorporated, special purpose vehicle ("**SPV**").

Historically, while India's Planning Commission has recommended and developed model concession agreements for various sectors within the infrastructure market, the Railways Ministry has

preferred to approach the issue on a case-by-case basis (inevitably leading to considerable time being required to negotiate and finalize each individual concession agreement).

Currently, a model concession agreement is cooking with the Ministry of Railways and any concession agreement granting the private sector the right to design, build, finance, own, operate and transfer assets will need to fairly allocate risks and rewards between the private sector and the Government.

Firstly, it will need to establish who will collect revenues, which will most certainly be the Indian Railways. Behind the veil of that collection though, the Government will need to ensure that revenues are shared with the SPV to ensure that it will not only meet its cost of financing, but achieve a return on equity too.

Just as important, any concession agreement will need to clarify who owns the asset during the term and (if relevant) how it will be transferred to the Government at the end of the term (and what payments, if any, need to be made).

It should also be clarified to what extent any SPV is required to lease assets belonging to the

Government in order to allow it to execute the particular project being contemplated. It should ensure that the terms of those leases are consistent with the term of the concession agreement.

In the event that land acquisition is necessary, the concession agreement clearly needs to allocate that responsibility on the shoulders of the Government and it should be a condition precedent to the effectiveness of the concession (and in any event, it will obviously need to be a condition precedent to the draw down of any debt made available under lender financing).

Of considerable importance to the bankability of any concession agreement will be the allocation of risk for termination events. By that, we mean that it should be clear what happens in the event of a termination of the project as a result of: (1) the Government failing to discharge its obligations; (2) the SPV failing to discharge its obligations; (3) a change-in-law (which would effectively expropriate or nationalize the project); and (4) an event of force majeure.

As a general rule of thumb, termination events should essentially obligate the Government to pay out the SPV a termination sum that should, at a

minimum, discharge its debt costs and (depending on the circumstances) provide a return on equity. These clauses are often the most difficult to negotiate and their importance cannot be over stressed in the context of a bankability review by any future lender to the project.

Structuring the conditions precedent for financial closure is often the most crucial aspect of any project as it essentially draws together the multitude of conditions that are necessary for the SPV to satisfy in order to draw down financing and commence construction.

These will differ from project to project, depending on its nature and whether it relates to the construction of track, ancillary facilities such as rolling stations and other assets, or the provision of ancillary services, such as signaling or maintenance.

However, generally, it would be expected to include: (1) a construction type agreement; (2) an operation and maintenance type agreement; (3) sub-contracts in relation to those agreements; (4) performance bonds and parent company guarantees from those contractors who are constructing, operating and maintaining the project being constructed; (5) licenses, permits and

consents relating to the construction and operation of the project (including environmental consents); (6) confirmation of land rights vested being vested in the SPV; (7) equity subscription and shareholder agreements in relation to the SPV (and the equity portion of the project to be funded by the sponsors); (8) sponsor support in the event that certain risks taken on by the SPV materialize (committing the sponsors to provide further equity or debt support); (9) Government support (in the event that certain risks taken on by the Ministry of Railways arise) committing the Government to provide financial support to the SPV; (10) the financing documents relating to the provision of loans by lenders and the structuring of that relationship through a common terms agreement and an intercreditor agreement; (11) security documents in relation to the security that the lenders will take over the assets and rights of the SPV; (12) direct agreements granting the lenders the right to suspend termination by the Ministry of Railways or other key project parties in the event that the SPV materially breaches a project agreement; and (13) ancillary corporate conditions precedent such as board and shareholder resolutions of each material project party and legal opinions in relation to the execution and

enforceability of the transaction documents in general.

5. Economics

But do the finances stack up? Has the data been thoroughly analyzed? Have the passenger statistics been pulled apart? It's these economic considerations that will essentially determine the success of any project and its importance cannot be over emphasized in infrastructure projects of epic proportions. These concerns are absolutely crucial in negotiating the key terms of the concession, in relation to any user charge payable to the Ministry of Railways and the ability of the SPV to determine fee structures for users. Anticipated ridership levels or throughput volumes (in relation to freight) at various pricing points need to be carefully scrutinized in assessing whether the project will generate enough revenue to pay operating costs, repay debt and other third party costs over the lifetime of the project. Government support should be triggered in the event that various risks such as ridership or utilization does not materialize in accordance with the projected model.

External market risks also need to be considered carefully. In the passenger segment, if rail ticket

costs were more than it costs to fly, why would a passenger choose to travel such long distances by train? At what point does the paying capacity of the differentiated customer make the project a financial white elephant?

6. Conclusions

It's not news to say that India's creaking infrastructure requires urgent modernization if it is to live up to the aspiration of becoming a central hub for global manufacturing and facilitate its long-term economic growth.

Key to that aspiration is the ability to move large numbers of people and goods effectively and efficiently from point-to-point and the ability of the rail network to connect to the very heart of metropolitan centers makes it an invaluable form of transportation.

But the sums required to build India's high-speed rail network are astronomical and it is difficult to see how the private sector can take on that risk without significant support from Government to mitigate those risks that are essentially outside the control of the private sector.

While we are seeing encouraging developments in the construction of India's Western and Eastern Corridors, and there is no shortage of enthusiasm for the vision of the '*Golden Quadrilateral*', it can only be achieved through a well thought out concession agreement fairly allocating project related risks. It's only then, perhaps, will we see the light at the end of the proverbial *railway* tunnel.

Waste to Energy: Harnessing the Public Private Partners hip model for a greener future

June 24,2015, | | THE HANS INDIA

India’s major weakness in reference to trade and business has always been infrastructure. With the current government emphasizing on pushing the Swach Bharat, it is important that the private sector steps in.

Considering that cities are an integral part of the business sector of India, it has always been in the best interest of private companies to improve urban infrastructure.

While necessities like hygiene, efficient waste-disposal, mobility and public transport, etc. are abysmal in the rural areas; the cities aren't up to the mark either.

Ideally, in cities with a heavy population density, the importance to infrastructure must take pole position. The amount of waste that a city dispenses should be segregated, collected and dispensed off effectively to avoid resource wastage and health problems. However, the current scenario on Municipal Solid Waste (MSW) Management is bleak in the developed areas. Almost 1.3 Lakh metric tonnes of MSW are generated every day and only a slight fraction of this is treated in a scientific manner. According to estimates from a study done a few years ago, the National Task Force on Waste

to Energy calculated that a potential of 439 MW of power can be generated from 32,890 tonnes of waste per day (12 million tonnes a year). The committee also estimated that India's municipal waste production will rise to 165 million tonnes a year by 2031 and 436 million tonnes by 2050.

In lieu of this, the government has started taking steps to combat the dire waste problem that India is going to be facing soon. While initiatives like Swach Bharat and Nirmal Bharat are admirable, the impact of these efforts has been minimal on ground. One of the main reasons for this is lack of execution and percolation of the projects undertaken, due to the scarcity of financial resources faced by most of the Urban Local Bodies (ULB). In this situation, a radical improvement only on the basis of government initiatives is a tough, uphill task.

This is where the Public Private Partnership (PPP) models can be a game-changer. A public–private partnership is a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies. Advanced technology, efficient processes and working in a civic environment being key for SWM projects, it was acknowledged that this sector could benefit

greatly if government bodies tied up with private organizations.

While this model seems to work on paper, overall it hasn't worked very well in India. Despite a few key projects like the Delhi and Mumbai metro, there aren't many successful examples of PPP one can think of. This situation could either be due to the lack of understanding at the ULB levels of the meaning and scope of a PPP, inadequate of faulty concessional agreements or bureaucracy issues that cause dis-settlement between the two sectors.

However, these issues can be solved with proper systems being set in place, with incentives to the private sector to partner with government projects successfully.

The availability of various technologies well adapted to the peculiar characteristics of Indian MSW, easy finance from banks through Green Bonds, awareness amongst population and the passion to do something on ground amongst the ULBs, the private sector can play a major role to make our urban areas clean and green.

Authorities are coming to the realization that the renewable energy tariffs need to be higher than

conventional rates because solid waste has to be segregated and then processed to generate power. On the same lines compost from Municipal Solid Waste is being considered for special support price, making it more viable financially for the private sector. The gestation period of waste management projects also adds to the financial burden. To counter this, the concept of viability gap funding by the ULBs and the central government has been proposed. Through the Swach Bharat Kosh, not only the ULB's but also the central government invests in a PPP project.

The profits can then be shared at a later stage in the same percentage as the investment. This ensures that the ULB's, government nor the private organizations lose interest in the project and see it through. The government has also mandated that sustainable projects can be part of CSR activities which is an added incentive for the private sector to play a leading role and cooperate with ULB's to make the world a better place.

Overall, the steps being taken to merge the advanced technological innovations of the private sector along with government initiatives are in the right direction. Keeping these efforts up will see India on its way to a cleaner, greener tomorrow.

Rs 13,500-Cr Road Projects Awarded Under PPP Mode in FY16: Report

Press Trust of India | Updated On: June 28, 2015

New Delhi: At a time when PPP or public-private partnership projects in highways sector had taken a backseat, government's renewed focus on it has revived developers' interest with projects worth about Rs 13,500 crore either awarded or in advanced stages of finalisation so far this fiscal year. In sharp contrast, barely Rs 6,300 crore projects could be awarded in 2014-15 whereas the number of projects awarded was only two in 2013-14.

"Over-leveraged financials due to excessive exposure to highways and other infrastructure projects, equity crunch, constraints like banks reaching the ceiling as per sectoral exposure norms coupled with regulatory and other hurdles had resulted in developers shying away from PPP projects but continued efforts to boost the sector have revived their interest," an official said.

Further, inadequate project preparation and lack of land acquisition on part of the National Highways Authority of India (NHAI) had also resulted in

discouraging prospective bidders to participate in new project bids, the official said.

To address these issues, the government is taking conscious steps including emphasis on better project preparation and land acquisition, simplified procedures for appraisal, exit policy for concessionaires, amicable settlement of disputes, operationalisation of IMGs, amendments to the model concessionaires agreement and one-time infusion for languishing projects, he added.

Besides, innovative project innovation models like hybrid annuity model was introduced and multi-lateral funding agencies like World Bank, ADB were roped in. "As a result, participation of the private sector in PPP highway projects has started showing signs of recovery... In 2015-16, one BOT (toll) project has been awarded and bids received and are under process for five. The length of these 6 projects is around 665 km and estimated cost is Rs 9,200 crore," the official said.

These include Solapur-Bijapur project in Maharashtra, Raipur-Bilaspur in Chhattisgarh, Mukarba Chowk-Panipat in Haryana, Agra-Etawah bypass in Uttar Pradesh and Biaora-Dewas and Guna-Biaora in Madhaya Pradesh awarded to

builders like Uniquest Infra, Essel Projects, Essel Infra, IRB Infra, Oriental Structural and Dilip Buildcon.

Besides, IL&FS Transportation Networks has emerged as the lowest bidder for two highways projects worth Rs 4,174 crore in Maharashtra, bids for which were invited by the National Highways Authority of India (NHAI).

Both the projects were earlier awarded to Larsen & Toubro but NHAI's inability to acquire required land had led to the developer exiting from the project. The official said in contrast to the current trend, in 2014-15, only five BOT (build-operate-transfer) projects worth Rs 6,300 crore involving 734 km could be awarded.

The projects were Aurangabad-Yedishi in Maharashtra, Kaithal-Haryana/Rajasthan border project in Haryana and Rajasthan, Bikaner-Phalodi in Rajasthan, Shivpuri-Guna in Madhya Pradesh and Hospet-Chitradurga in Karnataka.

Velnathpara slum dwellers to get houses under PPP

TNN | Jul 2, 2015

RAJKOT: Soon, people living in one of the biggest slums in Rajkot city, Velnathpara, will get their own houses under the Rajkot Municipal Corporation's (RMC) scheme implemented under public-private partnership (PPP) model. The slum dwellers will get houses at the same spot where they are living.

"The bidding agencies have quoted their prices for the housing scheme a Velnathpara and soon we will take a call on it. So, far, highest bidding price which an agency has offered is Rs 26 crore as premium. The agency has to demolish slums and provide houses free of cost to the dwellers," Vijay Nehra, Municipal Commissioner, RMC, told TOI.

Nehra added that Velnathpara is the seventh housing project for slum dwellers in the city. Once the agency is finalized, survey of the slum dweller and number of housing units will be taken up.

According to RMC officials, the houses will be built under Guidelines of the Slum Rehabilitation and Redevelopment Policy, 2013. The house projects

under PPP model is part of slum free city development goal of the government. Developers will have to provide 28 square metre 1BHK with toilet and other facilities for each of the housing units.

Earlier, RMC has awarded six projects of housing under PPP model in different slums areas of the city. Work has started at different sites. About 2,000 units will be built under the seven housing schemes of PPP model.

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