Project Finance In The Indian Water Sector

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Abstract: This paper aims at assessing the myriad of water crisis that India has dealt with over the years and analyzing the success/failure ration that has come with using varied methods of project finance to resolve the same. I go forward with the approach of examining the various models as employed in Project financing. While simultaneously examining the changing landscape when contending with the various benefactors behind these projects and the domestic as well foreign entities responsible for assisting the government in the wide variety of projects carried out.

Keywords: Project Finance, Service Contracts, Concessions, PPP's, BOT, BOOT

1. Introduction

Humans can survive weeks without food, but only days without water — in some conditions, only hours. It may sound clichéd, but it's no hyperbole: Water is life. So what transpires when private companies control the spigot ?. The cumulative evidence from India and across the globe presents a very skewed picture of the water sector where privatization has been allowed. Privatization of water resources has included Project Financing and innovative Cost Savings procedure.

While the supporters of Privatization and Project finance model attest to the increased efficiency, higher flexibility, scope of innovation along with the higher cost savings by involvement of private entities into arena of governmental service. The antagonists are horrified and experience from nations across the world provides evidence of gross violation of human rights and fundamental duty of the state..

The detractors of such a model attest to the countless experiences of failure[1] evidenced by a spate of protest, ugly violent confrontations and uprising protests in various developing countries[2]. Water being essential and a basic necessity for survival as the consumers claim control of an element such as water in private hands is utterly dangerous. Even apostle institutions such as the United Nation Organization recognize that all humans have a right to clean and Sanitary water[3] and by extension it is the duty of the state to provide clean drinking water along with its other uses to all of its citizens. Specialists defiantly debate that privatization has an adverse impact on citizens' within developing nations and it also impacts the employee morale and generates fear of uprising, dislocation and termination[4]. More likely it also adds on to the apprehensions pertaining to accountability and quality[5].

This research paper aims at assessing India's status in regard to the project finance model specific to the water sector. For rising pollution levels from the 19th-20th century onwards has had a crippling impact on water sources. Fresh water bodies all over India have been affected..

In the years post the wake of liberalization (1990), the government decided to take a novel approach when dealing with the multifocal problems in the Indian Water sector. With ever increasing population levels it was essential to adopt a mechanism providing for optimal water allocation across cities, towns and districts of the nation. Another essential was the ardent need to carry out sanitation programs[6] of the water bodies. For the rising pollution levels of the 20th Century had a debilitating impact on these water bodies as well. Alongside the above essentials, corollary functions such as proper sewage and disposal system[7] were also a need of the hour.

Taking into account all the above considerations, the government went ahead with slew of PPP (Public Private Partnerships) projects in the decades onwards from the1990's. However twenty years down the line these schemes have proved unsuccessful in meeting the demands of the rising population. This paper seeks to examine what are the various models that were adopted as a part of these PPP projects, whether the nature of the aforesaid projects has changed in the years since elapsed. Furthermore to assess the success/failure ratio concerned with these projects and using that as the dais to decide what method should be employed by India to deal with the existing problems in the Indian Water sector. Is it time that the government heads back to the drawing board to come with an entirely new plan to contend with these issues or do we

simply continue with the existing model making changes along the way.

2. Project Finance

This is a financial model which entails a long term financing of its infrastructure and industrial projects based upon the projected cash flow of the project rather than balance sheets of its sponsors. Such a structure involves equity investors in addition to which lie a syndicate of banks providing non-recourse loans[8](more often than not) to the operation in question.

Such financial modeling ensure that the loans secured emanate from the project assets themselves rather than able to assume control of a project if the project company has difficulties complying with the loan terms. The purpose of creating a special purpose entity SPE is usually to shield other assets owned by a project sponsor from the detrimental effects of a project failure. As a special purpose entity, the project company has no assets other than the project.

Capital contribution commitments by the owners of the project company are sometimes necessary to ensure that the project is financially sound or to assure the lenders of the sponsors' commitment. Project finance is often more complicated than alternative financing methods. Traditionally, project financing has been most commonly used in the extractive (mining), transportation, telecommunications industries as well as sports and entertainment venues

3. Project Finance In The Water Sector

Project financing is undertaken within the water sector through various methods and includes service contracts, lease and management contracts, divestures and concessions. These methods further include various techniques and procedures involving design build finance and operating models. This part examines the varied models of project finance as employed in India and other parts of the globe (intermittent focus). To begin with Privatization of water supply can involve any or all components from the source of water (say a dam), canals, filtration and distribution, to the collection, treatment and disposal of wastewater and sewage (all the said activities grouped under the term of Water Supply and Sanitation - WSS). This involves provision of specific services and financing at micro-level with finance and investments during the designing, building or operation of a scheme and even for its maintenance. The following provides various schemes and procedures as applicable and being used within India and elsewhere.

3.1 Service Contracts

It entails short term contracts for provision of specific services of the likes of meter reading and bill preparation. Such contracts rarely require any investment from a private company[9] with no additional risks adduced to the same, in addition to having no direct links to the consumer. The leakage reduction contract to Thames Water Plc. can serve as an example of the aforementioned type of contracts.

3.2Lease / Management Contracts

In such a system, the private company leases out the facility from the civic authority or the latter appoints the former as a conduit for managing the facility[10]. In either of the aforesaid scenarios the ownership remains public, with the private entity rarely if ever responsible for new investments or expansion. Though a reprieve from commercial risks on does not extend to a day to day basis.The proposed management contract of 2 zones, South II and III, in Delhi (presently now on hold) . The category of Operation and Maintenance (O & M) Contracts can be subsumed under this category, a category of operations which has been quite popular in the India water sector. Here the sole responsibility enlisted is to operate and manage the governmental facility and upon due course contingent on contractual obligations, hand it back to the government.

3.3 Divestures

Here, the Government divests its equity that is then bought off by a private company. Divestures can take place either Fully (typically known as privatization) or partially with Wales and England serving as poignant examples. The latter nation is particularly noteworthy, for under former UK Prime Minister Ms. Margaret Thatcher they went on a wave of divesture schemes in the energy and water sector in the 1980's[11]. Resultant of which immense economic growth and provision of quality services was witnessed in the said time period.

In such a system the, therein exists an independent regulator whose functions normally include setting the tariffs. Furthermore an interested government would typically divests its assets, will sell its shares in the utility or transfers assets into a SPE/SPV and sell shares in that company. Although divesture can also be via sale of assets. The decision in regard to whether divesture is taking place by an asset or share sale

Typically a government intending to divest of utility assets will sell shares in the utility or transfer assets into a special purpose company and sell shares in that company, although divestiture can be via a sale of assets. Whether the divestiture is via an asset or share sale will depend on the circumstances of the utility and local issues such as tax treatment of such sales. The share sale is often favored as it allows the government to retain an indirect or veto interest in the privatized

3.4 CONCESSIONS

These are long term contracts where although the ownership rights continues to reside with public authorities, the associated returns and operation rights are transferred onto the private players. The uniqueness of these contracts has ensured it's immense usage and popularity across the globe. The concession contract awarded to private firm to manage the drainage and sewage system in Buenos Aires[12](Argentina) is one such example of Concession contracts

Under concession contracts[13], private partner gets exclusive rights from the government to operate, maintain(Provision of service, recovery of bills) and sometimes even carry out investment in a public utility for a given period of time. In return, the private party pays either a fixed sum, a percentage of revenue from the utility or a combination of the two to the government for exclusive rights over a facility. Revenue to the private party comes from the user fee charged to users of the facility.

Such Public-Private Partnerships (PPP) come in a variety of forms and no two PPP projects are exactly alike. Within which Privatization takes on multifarious forms:

3.4(i) . BOT CONTRACT MODEL

In such a model, the private entity retains a concession for a designated period of time from a public entity(governmental agency) referred to as the principal for the development and operation of a public facility. The said task would involve operations in the nature of financing, designing and construction of the facility and ensuring its profitability. During the concession period , the concessionaire acts as the owner of a particular facility, with the intent of securing returns on the investment made in the initially.

At the end of the concession period, the concessionaire transfers the ownership of the facility free of liens to the principal at no cost[14]. These project prove to be very useful when it comes to bidding projects, for they allow for sharing the risks involved in a project. Their prime function is to serve wide array of public needs and they are extensively employed in the Water & Sewerage, Roadway & Bridges. It comprises of various factorials such concessionaire, operators, contractors.

3.4(ii)DBFO (DESIGN BUILD FINANCE OPERATE)

This model serves as the most common form of PPP, involving an integration[15] between the four functions of Design, Building, Financing & Operating, within the dais of one PPP operator. The PPP provider secures its own financing to build, maintain and operate the facilities to meet the public sector requirements. In accordance with the quality of services delivered by the service provider, he is accordingly compensated at specified performance standards, throughout the entire contract length.

Enduring optimal usage of capital resources in government projects as well as a degree of uncertainty over future governmental cash flows. Thus by extension transferring the financial risks to the private sector, who will requisitely do the due diligence to ensure financial viability of the project. A disadvantage with this model could be the difficulty with long term relationships and the threat of future projects derailing the erstwhile commitments This model is extensively used in specific infrastructure projects such as toll roads

3.4(iii) BOOT (BUILD OWN OPERATE TRANSFER)

The sole distinguishing feature of this contractual model from a BOT model is that here not only is the concessionaire building, operating and eventually transferring the property back to the public body, but also owns it for a gazette time period. Examples of where the governmental ownership is transferred to the concessionaire for a set time period would be the Suez Canal.

Normally, these would be long-term contracts, with a purchase agreement that would guarantee a minimum demand. (The so called 'take-or-pay' clauses). An example for the aforesaid is the Industrial water supply project on BOOT basis in Tirrupur, Tamil Nadu)

3.4(iv)DBO MODEL (DESIGN BUILD OPERATE)

In this model the public sector owns and finances the construction of new assets. The private entity's responsibility is to design, build and operate the assets to meet certain agreed outputs. The documentation is generally simpler than a OT or other project finance models for there are no financing documents and would entail a turnkey construction contract plus an operation contract, or a section within a turnkey contract which would cover operations as well.

A question that would also arise upon a cursory examination of this model would as to how does this model distinguish[16] itself any other forms of private ownership. For instance at every instance an individual builds a facility/house they are building it, owning and operating it. The distinguishing feature of BOO's is the continuing level of governmental involvement in such matters. For contracts of such a nature entail the provision of some kind of an essential service, a scenario in which one can't rely on a large number of competitive suppliers of that service

Another area of governmental involvement emerges in the form of the need for the government to use its coercive powers to get a particular project started[17] in initiated. An aspect common to infrastructure projects - for instance construction of a private railway line the viability of which would be dependent on the governmental capacity to resume land, compulsorily in order for the private or government builder of the railway line can proceed.

Additional models too exist within this sphere, such as the following:

VI) DBOT- (Design Build Operate Transfer)
VII) DCMF (Design Construct Manage Finance)
VIII) BLT (Build Lease Transfer)

4. CHANGES AND THE VARIOUS ENTITIES RESPONSIBLE FOR THE GROWTH OF PROJECT FINANCE IN THE INDIAN WATER SECTOR

As highlighted by the WSP report of 2011, the PPP model in the Indian Water Sector has undergone incredulous amounts of transformation in the last two decades. Be it in regard to the sheer numbers in terms of the increase of Privatized water projects from the 1990's to the emerging domestic entities who have beaten their foreign competitors to tenders to carry out these privatized initiatives[18].

The varied set of government programs that have been introduced in the last two and a half decades, with the intent of aiding in the increase of privatization in water projects. The National Water Policy (1987 & 2002) JNNURM, UID and UIDSSMT amongst others, constitute one of the many governmental initiatives to achieve the aforementioned. This insidious route is via the means of the water sector reforms as brought about by the government. For ARTICLE 246[19] of THE CONSTITUTION OFINDIA deals with subject matter of laws to be made by the Parliament and by Legislature of the States. Water falls within the purview of the state's authority under Entry 17 of List-II i.e. State List. This entry is subject to the provision of Entry 56 of List-I i.e. Union List.

Furthermore as held by the Supreme Court in the case of *M.C.Mehta*v. *Kamal Nath*[20], water has been recognized as a natural resource which is to be held in trust by the state in public interest. By this disposition the state has been anointed as the trustee of water resources, equally responsible for equal distribution of water. It is this background enshrined in the emblem of ARTICLE 37[21] of DIRECTIVE PRINCIPLES OF STATE POLICY, that has ensured that the state has actively taken charge about the direction in which these projects are heading. Rather than merely handing them over entirely into the hands of the private contractors.

Another important aspect is the presence of International Financial Institutions. The policies as put forward by these institutions have an inherent neo-liberal inclination. Water according to them is an economic good which is subject to market forces ensuring efficiency and most importantly sustainability of this resource. The World Bank CAS 2009 - 2012[22] recognized that India's water sector is "deeply under stress[23]"

To address the stress factors the Bank proposes several solutions in its country strategy:

"Cross-cutting priority reforms where activities are already underway include - Restructuring of public sector institutions (including through capacity building and the strategic realignment of incentive structures and skills mixes) and the establishment of new institutions (including regulatory authorities, water users associations, river basin agencies, and public-private partnerships) ……Financial sustainability of resource management and service delivery through rational charges and tariffs and improved financial management, including removing distorting subsidies and moving towards user charges that reflect at least O&M costs".

Similarly, the IFC and WSP are also implementing various projects to promote PPPs in India. The IFC is the lead advisor to the Infrastructure Corporation of Andhra Pradesh (INCAP). It is also providing support to the India Infrastructure Fund with the IDFC and to projects like Tiruppur in terms of equity participation. The IFC is also financing an irrigation project in Maharashtra and would also help in preparing the bid documents to privatize the project.

The WSP is working with Central government ministries, state governments and other departments for promoting urban and rural reforms in water and sanitation services. It is working with the Government of Gujarat, the Ministry of Urban Development, the Ministry of Panchayati Raj, the Department of Economic Affairs and the Department for Drinking Water Supply. The major thrust of its projects is towards evaluating and promoting PPP options for provision of WSS services, willingness to pay, institutional reforms, etc. It is also partnering with other aid agencies for project implementation like the DFID, AusAID, SIDA, UNICEF, WaterAid, etc.

5. FACTORS AFFECTING THE FUTURE OF PPP PROJECTS

5.1FACILITATIVE FACTORS[24]

Where PPP contracts have been awarded, one or more of the following facilitative factors seemed to have been present

5.1(i) PUBLIC FUNDING AVAILABILITY: With the number of reforms and statutory provision and emanations have arisen as seen in the previous few section such as JNNURM and the numerous sub schemes within it. One sees a greater degree of public funding being available and thus providing a push to PPP projects. The projects in Salt Lake City (Kolkata) and Khandwa(Madhya Pradesh) covered 50-60% of the project costs. Thus the added pressure of making losses in a particular venture is taken off the heads of private entities, providing them impetus to partake in such programs responsible for providing important amenities to civilians. Thus mass lowering projects costs and pressure for tariff increases.

5.1(ii)MECHANISMS TO ADDRESS TARIFF CONCERNS:
Issues regarding Tariff concerns too have been contended with in recent times to incentivize the involvement of private parties by reducing tariffs and revenue risks of the operators. For instance the PPP projects in Khandwa and Shivpuri, saw safeguards being provided against defaults in customer payments.

5.1(iii)INCREASED ATTENTION TO STAKEHOLDER SUPPORT:
An extensive support from the stakeholders from the inception of the Projects has been immensely helpful to projects of the ilk of the KUWAS**IP.**In several of these projects, the need for intervention was substantiated and articulated to stakeholders. Problems which were :

5.1(iv)STRONG PROJECT OWNERSHIP AND EXPERTISE: A strong leadership at the helm of these projects as seen in the KUWASIP and other projects across Madhya Pradesh, Haldia, Naya Raipur have been on the receiving end of expertise from the state department functionaries

5.1(v)GROWTH IN DOMESTIC PRIVATE SECTOR INTEREST:
A high risk taking appetite coupled with the ability with the ability of effective management of costs has seen many a domestic operator be successful in securing and implementing many of these projects. This has particularly been the norm in the period post 2005.
To summarize successful contract awards in the Water sector has relied on a base of well structured public funding, addressing tariff concerns and resultant of which helping in gaining stakeholder support. An increased number of bidders have further augmented the opportunities and success ratio in this particular spectrum.

5.2 OBSTRUCTIVE FACTORS[25]:

5.2(i) PPP'S ARE EXPENSIVE:

PPP'S can be really expensive projects due to a myriad of factors. The rate of return needs to be much higher to attract efficient private parties. Secondly the procurement process in larger PPP contracts is more expensive than direct government procurement. Additionally the cost of capital (borrowing) also turns out to be higher.

5.2(ii) CAPITAL BORROWING IS AT HIGHER INTEREST RATES

The greater risk of default associated with the private sector ensures corporate debt being higher as well. Hence PPP which are highly debt dependent, pay higher interest rates than public sector.

5.2(iii)PPP'S ARE NOT AS EFFICIENT:

A PPP's efficiency rests on the basis of the efficiency as brought forth by the private company which is a part of the partnership. Upon examining one can clearly ascertain that there can be case by case variance for instance the case of PPP project in Nagpur as taken over by French giant

Veolia. The following transpired within 2 years of handing over the project: Consumers[26] who were a part of the pilot in Dharampeth lodged numerous complaints after the new water meters were installed by Veolia Water in 2009.

- Water bills went up by 35%.
- Due to substandard quality work at Jaripatka in Nagpur, one person died.
- The water losses (Unaccounted For Water) increased.
- The income and expenditure deficit of the NMC increased from Rs 40 crore to 85 crore.
- Water tariff increased 300 times.
- Project cost increased to more than 46.05% over the approved cost.
- 24x7 water supply is not available in many slums.

Without properly assessing the project outcomes, NMC extended the project to the entire city in November 2011. It signed a concession agreement with the Orange City Water Private Ltd. (OCWL) which is a joint venture of Vishwaraj Environment Pvt. Ltd and Veolia Water (India) Pvt. Ltd. The total cost of the project increased from Rs 387.86 crore to Rs. 566.09crore before handing over the water work to OCW.

5.2(iv) Transparency & Accountability

Commercial secrecy is a right that private companies can exercise as a result of which the consumer is often very crucial project related information. Which serves as a major drawback , diluting the democratic approach of public participation in decision making. There is no publicly accessible database concerning the approach and the exact degree of developments as concerned with these PPP projects which are under construction and operation.

Thus while these PPP projects are not the panacea of evil in all developing nations, however if properly implemented they can serve as an important conduit for achieve the MDG.

5.2(v) Progress confined to Solely Project level improvements

As far as other sector such as power and highways, the PPP model finds itself being adopted as the sector wide strategy

and initiation of governmental attempts such as model concession agreements only add on to it. In comparison the PPP model has focus which is geared specific to a project. One could attribute the above to the general apprehension surrounding Private involvement in Provision and dissemination of water resources, along with the negative publicity regarding the failure of certain projects(Nagpur Water Projects) & the at times overarching involvement of global benefactors such as the World Bank[27].

5.2(vi)Project preparation, structuring, and risk sharing remain patchy

At present the project preparation for PPP's appear to take place in a finite time scale, with a rushed approach as far as submission of proposals, grants of programs and the relative short tenure of decision makers. While in a way there has been marked improvement in terms of the time that elapses in regard to the granting of the projects, it is essential to understand that these projects like any other model of social engineering require time and patience. Factional party politics, should not have any impact in terms of the initiation of these projects. For these projects to begin with, should analyze and assess which sort of model fits their fulcrum the most.

Once initiated, there should be a whole hearted effort towards continuing with it (a system allowing for changes along the way as per the particular scenario.) rather than desolating projects with the coming in of a new political regime. For it is only then can one bear the fruits emanating from a well planned and well implemented project. At the same time there should be a proper modicum appropriating the risks, for the concept of risk sharing is not very well developed as it often entails operators having to pay for costs not under their control such as raw water and electricity[28].

5.2(vii)Cities lack the capacity to design, implement, and monitor PPPs

A confluence of the individuals at the planning level and the operational level is sordidly missing at present. For it is this divide which serves at the basis of unrealistic expectation and timelines as imposed on the private

entities. Implementing agencies often suffer from an inability to monitor and oversee contractual obligation, with their capacity localized on asset creation solely.

6.CONCLUSION

An objective analysis such as the above shows that the future of PPP or commonly called as the P3 projects looks bright in the context of the Indian Water Sector. While there have ardently been failures in regard to the operation of the projects, the failure of the Privatization project in Nagpur comes to mind. However one has to examine those problems as preliminary teething problems, for while privatization projects go back almost 2 and half decades back. The degree of capital investment is very minor if one compares it to the private involvement in the power sector.

Another interesting aspect to note is that we have gone divergently against the set plan back in the 1990's which promised heavy capital investment on part of those private entities, a trend as illustrated previously has been finished since 2005. Which is completely different from the standard conception of a PPP model- which principally majority investment from the private entity. Whereby almost 70-80% of the investment presently is carried out by the government or their various emanations in the case of India

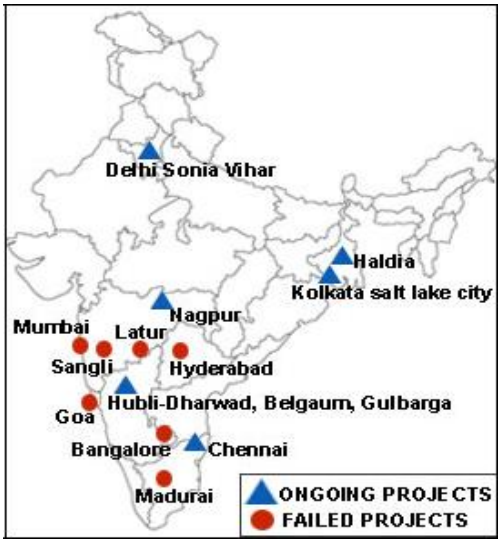

FIGURE 14: MAP REPRESENTATIVE OF A NO. OF FAILED OR ONGOING PPP PROJECTS

The above aspect is essential to be understood when the discussion maneuvers to the issue of the primacy of water as a resource and the subsequent uproar about its privatization. These elements are necessary to come to the conclusion that the likelihood of an event like the Bolivian Cochabamba crisis of 2000 is less likely to take place.

At the same time the issue doing away with the PPP models instead either heading back to "Remunicipalisation" or other alternative models such community participatory models in Brazil [29] (Porto alegre) or workers union oriented models in Dhaka, Bangladesh require intensive research. For one has to understand that for the emergence of such models, there are systems which are present, allowing for the promulgation of such mechanisms.

For any adoption of the same in India, similar kind of facilities are to developed. Also, what emerges from the observation of currently adopted schemes is that each PPP arrangement should be designed and adapted to the specific characteristics of the asset at stake, as well as to the peculiar abilities of all partners involved in the project. In order to ensure value for money it is imperative that a proper examination of each and every one of the models is carried out prior to their implementation.

The question of Financing also has to be looked into from the perspective of the contemporaneous developments surrounding the century old Kaveri [30] water dispute. For it is issues such as these that present the urgency regarding the need for financing in the Indian water sector in order to reconcile the dual conceptions [31] of water as both a right as well as its understanding as an economic resource.

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