

Chapter II

Objectives and Methodology

Objectives of Research

There are several reasons for this growing involvement of the private sector in infrastructure projects which include¹²:

- High Fiscal deficit or fiscal concerns of the government, when it privatises or involves private sector in large infrastructure projects to bridge this fiscal gap
- Availability of additional resources to meet the increasing needs of investment in infrastructure services
- Increased efficiency in project delivery and operation
- Access to advanced technology
- Sustainable development in infrastructure facilities and services.

PPPs in Infrastructure projects typically involve transfer of public assets, delegation of governmental authority for recovery of user charges, private control of monopolistic services and sharing of risks and contingent liabilities by the Government. Protection of user interests and the need to secure value for money, as such demand a rigorous treatment of these projects.

It is based on the principle of sharing and assigning of the risk to the party best suited to handle the particular risk. The private sector brings to the table, its technical and managerial expertise in implementation, operational efficiency, infusion of financial resources and introduces competitiveness in areas where feasible.

A Large number of PPP projects in highways sector were executed in Latin America, Central and Eastern Europe and East Asia in early 1990's. Initially there was a boom in such projects, but by late 1990's – early part of 21st century, PPP mode suffered huge setbacks due to various reasons which have been analysed in next chapter. A large number of them were renegotiated

¹² Transport and Tourism Division, UNESCAP (2007), "Public-Private Partnerships in Infrastructure Development: An introduction to issues from different perspectives", Bangkok: UNESCAP

and a few of them were renationalised also. These projects were studied and analysed in great detail by various scholars to ascertain the causes for success and failure of these projects and factors responsible for the same. The projects were studied on parameters like timely completion of projects, comparative project costs under various modes of delivery, key risks in execution under PPP mode like traffic risks and measures taken by different countries to mitigate these like shadow tolling, Availability based payments etc.

The PPP mode of delivery in highways sector in India started in a big way from 2005, when government decided that BOT (Toll)/ BOT (Annuity) would be the mode of delivery for NHDP III to NHDP VII, among these also projects would be first tested for BOT (Toll), and only if it is not feasible to award the project under BOT (Toll), it would be taken up under BOT (Annuity). In balance portion of NHDP II also the proportion of projects under PPP would be increased.

In the last few years large numbers of project in PPP mode under BOT (Toll) and BOT (Annuity) have been completed under NHDP. Unlike other countries not many comparative studies of PPP projects are available in India. Broad based studies or comparative analysis, if any are not available in the public domain. The present study attempts to find out whether the efficiencies which are typically associated with private sector have been obtained in NHDP projects. This would be done by comparing different modes of delivery on the parameters like timely completion, cost escalations, and disputes/ renegotiations in contracts. A comparative study would be made between projects executed under BOT (Toll); BOT (Annuity) and under EPC/ IRCC¹³ mode on the above parameters.

At the same time there is a gap in literature about effectiveness of PPP model on the parameters of Timely Completion, Cost effectiveness and contract disputes in the Indian context. An attempt would be made to fill this gap in a limited manner by undertaking a comparative study of completed projects in NHDP under Construction Contract/ EPC vis-a-vis BOT (Toll) and BOT (Annuity) projects.

The study would give us an idea about how effective PPP programme in highways in India have been in meeting its stated objectives. It would also give us an idea as to whether Indian

¹³ EPC/IRCC refers to Engineering, Procurement and Construction/ Item Rate Construction contract

experience has been different from countries, which were the pioneers in PPPs in highways and how India differs from them in parameters mentioned above. It may also give us an insight as to whether the policies in the sector are bearing fruit or there is further need to tweak them.

Research Questions

The following research questions are proposed to be examined as part of this research study:

- (i) Whether the BOT (Toll)/BOT (Annuity) projects have been completed on time, in case of delays how do these compare with EPC/Construction Contracts during the same period?
- (ii) Whether the BOT (Toll)/BOT (Annuity) projects have been completed within estimated cost; in case of variance how does it compare with EPC/Construction Contracts during the same period?
- (iii) What is the ratio of contractual disputes in BOT (Toll)/BOT (Annuity) comparison to projects on construction contracts?

Methodology of the Study

Public-Private Partnership projects have been widely studied under the New Public Management philosophy both as an instrument for effective provision of Public services as also for reducing the role of Government from the areas where private sector can provide efficient services. There is vast amount of literature available on PPP projects in Infrastructure sector. These studies have analysed the areas of infrastructure which lend itself easily to PPP model like Roads, Telecom and to some extent Power Generation, while sectors like Water Supply and Sanitation; and Power Distribution have seen very few successes. The literature gives a good account of reasons for successes and failures of PPP within the same sector in a cross-country scenario. A large number of case studies are available from multilateral agencies like World Bank, Asian Development Bank, European Central Bank etc. In Indian context a large volume of literature is available on websites of Ministry of Finance, Planning Commission and central Ministries involved in infrastructure projects. The literature gives a good account of the Policy,

Legal, Institutional, Financial and Risk framework required for execution of PPP projects. The reasons for the preference of PPP model for execution of infrastructure projects have been analysed in great detail.

It is therefore proposed to undertake a detailed survey of literature as the first item of the study. Even though most of the studies relate to countries which were early adopters of the PPP, these studies have lot of relevance in Indian context also, as several of them relate to developing countries with similar problems and prospects.

As a logical second step, data would be collected from NHAI relating to the parameters for comparison would (i) Completion Time (scheduled vs. actual); (ii) Cost of project (Estimated vs. Actual) and (iii) Ratio of contract disputes under different models. Data relating to individual projects are also available with appraising and financing institutions, it would be very difficult to obtain such data. Secondly, such project specific data would also not lend itself to comparison. In addition to primary data from NHAI, secondary information/data available with other government organisations like Planning Commission, Ministry of Road Transport and Highways, Ministry of Finance; Multilateral agencies like World Bank, Asian Development bank ; and private institutions like CRISIL etc. would also be studied and analysed to get a proper perspective. To understand the issues involved in implementation of NHDP, personal interviews with officials of Ministry of Highways and National Highway Authority would be conducted.

The data so collected would be analysed through simple statistical analysis to find out actual performance of projects under different modes of delivery. An effort would be made to analyse the underlying reasons for preference of BOT model over EPC/CC model based on the analysis of the completed projects under NHDP.

Limitations of the Research

The present study is intended to compare the performance of highway projects under PPP mode with those under EPC/IRCC mode. As most of the PPP projects have been completed in last 2-3 years, this becomes the inherent limitation of the study. Similarly the growth in world trade has been affected very seriously due to global financial crisis; this would also have affected the traffic growth/ toll collection in 2008-09 and 2009-10. The financial crisis has also caused

serious problem of funding for on going projects, thereby affecting the timeliness and cost parameters of ongoing projects. This may skew the available data making it difficult to project the trends in parameter over the entire concession period.

Availability of data with NHAI itself may be one of the limitations of the study. It is possible that all the data relating to traffic and revenue collection for individual projects may not be available at NHAI headquarter but at different Project Implementation Units. It would not be possible to collect and analyse such data.

Time limitation would be the third and key limitation of the study, therefore would involve simple statistical techniques for comparative analysis. However, being simple does not mean that a simplistic approach would be taken in the analysis, rather the study would enrich the existing body of knowledge by offering insights to widen and deepen the knowledge base in the area.