INDIA A GROWING ECONOMY: CHALLENGES FOR INFRASTRUCTURE DEVELOPMENT

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ABSTRACT-

Growth of infrastructure is a prerequisite for economic progression of the country. Gap in fund allocation and fund utilization is alarming. Large numbers of projects are missing time lines. Schedule overrun resulting in cost overrun can be effectively curbed by detailed and realistic planning ensuring timely availability of much needed Infrastructure.

I. INTRODUCTION

Indian economy is one of the fastest growing economies of the world, as on today it stands as the 4th largest economy. It is not intemperance to say that, 'Future of World Economy lies with the growth of India'. Despite the prevailing deterrents like corruption, lacunas in Government policies, socio political environment; Indian economy has grown many folds since independence. Development in agro sector and infrastructure sector has shown an exponential growth in last couple of decades. Infrastructure development is the need of the hour, as it forms the backbone of a nation's economy.

II. INVESTMENT PATTERS IN INFRASTRUCTURE SECTOR

Over a period of time substantial amount of funds have been allocated for development of Infrastructure, be it Highways, Airports, Communication, or Urban Infrastructure. Apart from funding from the Government, private players are also being encouraged to invest in infrastructure development and contribute their bit in nation development. "World Bank Development Report 1994" pointed out that productivity growth is higher in countries with an adequate and efficient supply of infrastructure services. Provision of infrastructure services to meet the demands of business, households and other users is one of the major challenges of economic development. In many surveys conducted by World Bank Group, private investors have cited reliable infrastructure services as an important consideration in their Investment decisions." A sizable percentage of GDP is being allocated for infrastructure sector. Contribution of private sector has almost doubled from 1.7% in 2006-07 to 3.3% during 2011-12 against Government share of 4.1% in 2007-08 and 5.1% during 2011-12. There is 100% increase in private investment in infrastructure sector against 24.4% increase in Government share. The figures are indicative of gradually growing confidence of private investors, as a result of confidence building measures / infrastructure reforms / policy reforms being promoted by the Government. However the contribution of private sector has been

lopsided. Telecom, Oil and Gas received the maximum share where as other sectors got marginal or no increase. On the contrary much essential infrastructure sectors like Roadways,

Railways and Electricity have shown a prominent decrease in fund allocation/utilization.

TABLE 1

Investment in Infrastructure Sector 10th and 11th plan

Sector	10th Plan		11th Plan	
	Original Projection Rs 8,71,445 Cr	Actual Investment 9,19,225 Cr	Original Projection Rs 20,56,150 Cr	Revised Projection 20,54,205 Cr
Electricity	35.5%	**37.0%**	30.4%	**32.0%**
Roadways	16.6%	13.8%	15.3%	13.6%
Telecom	11.9%	11.0%	12.6%	16.8%
Railways	13.7%	11.1%	12.7%	9.8%
Irrigation	12.8%	13.0%	12.3%	12.0%
Water Supply	7.4%	6.5%	7.0%	5.4%
Ports	1.6%	2.5%	4.3%	2.0%
Airports	0.8%	0.8%	1.5%	1.8%
Storage	0.6%	0.6%	1.0%	4.0%
Oil and Gas	1.1%	3.5%	0.8%	6.2%

Decreased funding in development of basic infrastructure facilities like Highways, Railways is a cause of worry. There could only be two reasons for decline in funding in these sectors, firstly there is no further scope for development, the facilities are adequate and attained a saturation level or secondly investment in these sectors is not being utilized due to some reasons, resulting in surrender of funds, thus decline in funding. The first reason can be discarded straight way, as it is quite evident from the present state of infrastructure that, there is plenty of scope for development. The second reason is alarming, it indicates at the inadequacy of fund handling capacity of infrastructure sectors. Futuristic investment pattern also indicates large investment in infrastructure sectors to develop facilities as per acceptable standards and also to support the growth process. The reasons for decline in funding pattern in essential infrastructure sector must be ascertained and corrective measures must be instituted to ensure optimum utilization of allocated funds and develop the facilities for National development.

II. DELAY IN EXECUTION OF INFRASTRUCTURE PROJECTS

Infrastructure management; though a comparatively new subject in Indian context, but definitely is not a virgin subject. In last ten years or so, lots of studies have been carried out in this field. Models adopted by developed countries that have successfully achieved desirable economic growth by successful implementation of infrastructure

development programmes on time, are being adopted or being molded to suite Indian environment. Before delay analysis of Infrastructure projects, it is important to understand basic characteristics of these projects. Infrastructure projects are different from conventional development projects. These projects influence larger section of the society, have direct impact on the economic growth and living standard of the population, are time consuming both in terms of planning and execution and require colossal amount of funding. Infrastructure projects also seek a higher degree of technical knowhow and a well oiled Project Management Organization. Delay in implementation is not only materialistic, having financial impact but has a cascading impediment on quality of life which cannot be assessed in terms of monitory losses. Thus the need arises to formulate a strategy at National level to obviate time and cost over runs in infrastructure projects. The project implementation statistics available through Ministry of Statistics and programme Implementation further substantiate the fact that despite availability of funds, project implementation is trailing behind the schedule. Data available through 50 sample projects of major Infrastructure sectors, which are behind schedule by more than 3 years indicates an average cost overrun of 96.00% irrespective of the sector with Railways topping the list at a whopping 352.82% cost overrun. The figures are alarming. The taxpayer is paying exorbitant price to get a delayed facility. Non availability of desired infrastructure in time is derailing the economic growth.

IV. UNDERSTANDING PROJECT MECHANICS

In order to formulate a viable strategy to handle time and cost overrun of the affected infrastructure sectors, it is imperative to identify various attributes responsible for delay. A project passes through various stages. Each stage has to be planned meticulously. Delay at one stage has a compounding effect on the subsequent stages, like wise time saved in one stage also has a compounding effect. Approval from competent authorities, designing, resource planning, fund flow, risk analysis, project procurement, and project management organization are few of the stages which need attention. Depending on the versatility of the Project Management Organization various activities can commence simultaneously thus resulting in overall time saving – less chances of time overrun – less chances of cost overrun.

V. IN APT PLANNING AS MAJOR CAUSES FOR DELAY

Over a period of time, seeing the plight of mega projects undertaken with an intend to deliver much sought after infrastructure for economic furtherance which have failed due to multifarious reasons In appropriate project formulation has emerged as the most prominent impediment.

VI. EFFECTS OF IN APPROPRIATE PROJECT FORMULATION AND MITIGATIONS

Project formulation forms the back bone of the project. Further project activities are pivoted around it. Poor planning at this stage results in multifarious failures / problems at subsequent stages of project formulation and implementation. Major impediments of in apt project formulation are as follows:-

A.Optimistic time scheduling

In exuberance, the planners resort to very optimistic time schedule, without taking in to account the complexity of crafting a plan in to an executable mechanism. Something akin to an automobile manufactures clamming fuel efficiency of the vehicle with a rider in fine prints 'under ideal conditions'. The performance results under working conditions divergently differ from ideal conditions.

B.Contingency Planning

The improper formulation leads to a chain reaction. The site requirement during execution may go haywire then as planned with no viable contingency. If there are no viable contingencies planned, to further push the project at envisaged bottlenecks, scope needs to be altered, may be in terms of design, in terms of funding, in terms of time frame and so on so forth.

C. Decision making

All above delay factors can be negated effectively and overall effects can be minimized if timely decisions are taken in the interest of the work, keeping aside the unwarranted hurdles and resistance at various levels in the organisational hierarchy. All Infrastructure projects are unique. Planning templates does help at macro level but micro activities are project specific. All such activities definitely cannot be taken in to account at planning stage, there cannot be a contingency plan for each and every unforeseen event. For successful implementation of project decisiveness attain utmost importance.

VII. MITIGATIONS

The suggested remedial measures are as under:-

A. Detailed planning

B. Type, Size and Location of the Infrastructure must be based on one and only one criteria i.e. 'Actual need '. 'Time spend in planning is directly proportional to time saved in execution.' Planning in detail, in depth study of various options available will help in selection of the most viable option. Detailed study for identification of risk factors associated with the project and preparation of contingency plans. All contingencies must form part of the contract agreement between the client and execution agency so as to minimize time delay in decision making during execution. WBS (Work Breakdown Structure) must be so planned that activities on critical path progresses flawlessly. Scheduling should just not be done mathematical or dictated by planning software. Correct data in terms of realistic working time available as a function of site constraints, prevailing weather conditions and availability of resources in terms of manpower and material, must be incorporated while optimizing the critical path.

C. Simple and detailed designs

Technical design must be prepared with utmost caution. For larger projects, authenticity of design must be ascertained by executing a pilot project. Lacunas noticed in pilot project will help in refining the design both from safety point of view and execution point of view. Design team must work in unison with execution agency, should act as facilitator. Design must encourage palletisation and modular construction for economy of resource and time.

D. Creation of data base

Database is to be created and maintained for similar kind of projects executed in past, with easy of accessibility. Different executing agencies must share the problems faced, their effects in terms of time and cost overrun. Various measures adopted by the executing agencies to handle such impediments must be shared with all concern in the form of lesson learned. Minister of Statistics and Programme Implementation (MOSPI) is maintaining a database of the various Infrastructure Projects. The data available with MOSPI is informative in nature. It does help in ascertaining the performance of a particular sector, but does not contribute towards improvement of the performance. On the similar lines on which MOSPI is working, a database to be created with project specific studies on problem faced by various organization and action taken thereof. Based on this database, some guiding planning templates can be developed. This will help in cutting down considerable time in planning and execution of upcoming projects. Tendency of reinventing of the wheel which is not only time consuming but also cost money, must be curbed.

E. Timely decisions

Timely decisions during execution will resolve all above discussed issues, even if over looked during planning stage. All Infrastructure projects are unique; have their own set of problems and solutions. Risk analysis and contingent planning will definitely iron out most of the hurdles of execution, but cannot relieve the executives/ managers / directors, the complete hierarchy of their responsibility to act as facilitators by taking timely decision. All infrastructure projects at all levels at every stages of execution will encounter unforeseen problems, may be related to design, environment, material, workers etc. Timely decision on part of the concern executives will help in considerably reducing the time over run.

VIII. CONCLUSIONS

Construction project environment is dynamic in nature. Projects do swing across “behind schedule,” “on schedule,” and “ahead of schedule” during construction phase. Time utilized for correct planning of the project with giving due importance to correct quantities, realistic time frame and detailed risk analysis will save agony of schedule over run other associated problems.

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