Case study on india china infrastructure

Countries, India

This paper aims to document and analyse the different approaches in overall infrastructure sector performance for these two very different countries from the policy and institutional dimensions. It identifies factors that have worked in China and India. It also identifies some important lessons which could be relevant for future infrastructure development.

For the last two decades, both India and China have grown at twice the global rate and If this trend continues for next few decades, with their vast labor supply, favorable demographics, and aspirations for reaching the developed world per capita income and consumption standards, these economies can be expected to have a significant impact on the world economy. China adopted a development model where manufacturing and exports are the key drivers of its economic performance.

Chinese government recognized that export competitiveness and manufacturing require connectivity to the global economy and, as a result, infrastructure development was propelled by a substantial and sustained drive supported by the government. The most remarkable common factor behind the success of infrastructure in China was the single-minded goal of sustaining economic growth and recognition of the importance of infrastructure development in achieving this goal.

China’s unparalleled growth andpovertyreduction in the last two decades has gone hand in hand with development of infrastructure stemming from its export-led strategy. India, the other “ giant” in Asia, did not follow the suit of the successful this infrastructure model in building ahead of demand. Its development strategy from time to time focused on redistribution of wealth rather than growth. In the early 1980s, China was among the poorest nations

in the world, with more than 60% of its population, or over 634 million people, living on less than $1 a day.

By 1990, China reduced poverty to less than 33% and, by 2003, to 13. 4%. This was possible because of very high growth rates fueled by trade openness. India’s achievements on growth and poverty during the same period have been steady but relatively modest—the overall population living on less than $1 day declined from 54. 4% in 1980 to 42. 1% and 30. 7%, respectively, in 1990 and 2003. The total number of poor, however, remains high at over 325 million.

To some extent, India’s overall performance was negatively influenced by the initial development model that emphasized import substitution and self-reliance, which was one of the contributing factors to its lack of trade openness for most of the period since independence. In the early fifties and sixties both countries had fairly similar levels of infrastructure assets and services. For example, China’s electricity output at 7. 3 billion kWh in 1952 compares well with India’s power output of 6. 3 billion kWh in 1950-51.

The Indian road network in 1950s was extensive at 400, 000 kms compared to about one third that in China and both countries, about 40% of roads were paved then. India’s railway network at 53, 000 kms was more than double that of China at 23, 000 kms. India and China had similar numbers of telephone subscribers [pic] Though most Indian planning policies have continued to emphasize the importance of Infrastructure, they did not embrace the Chinese single-minded goal of infrastructure development, anticipating future demand and building ahead of time.

India’s development model, which began with a balance between growth and distribution in the early fifties, was changed in mid-course with a greater emphasis on redistribution during the critical period of growth. A number of pro-poor programs were introduced which reduced overall fiscal space for infrastructure development, even within infrastructure priorities, political interests drove the overall resource allocation, for example, in the 1970s and 1980s, government emphasized development of minor irrigation and rural roads as part of anti-poverty programs.

Employment generation through construction of rural roads, and ground water and minor irrigation to supportfoodsecurity received much higher priority compared to need to enhance logistics to support industrial growth and improving overall economic efficiency. In five year plans a major goal was to connect all villages (with population of more than 1, 500 inhabitants) with rural road network; however, this was done through “ minimum needs program” supporting employment creation and leading to waste and inefficiency.

Most of the roads thus created did not meet quality standards because fiscal space was not adequate to accommodate both the demand for resources for rural roads and also the national highway network which was getting congested. Even in the case of power sector, village electrification was a priority so as to provide power for the farms, but not necessarily to households. Emphasis on connectivity, without improvements in overall economic efficiency meant unsustainable financial burden on the government budgets.

In the time of slower economic growth or external shocks such as wars and high oil prices, infrastructure investments were major casualty. China with its high economic growth rates and higher savings rates was able to allocate much larger resources for investments in general. In the 1980, China saved 35% of GDP whereas India’s savings rate was less than half at 15. 5%. This combined, with higher fiscal deficits in India, meant that it was not always possible to invest in infrastructure [pic] [pic] Planning Framework—Institutions, Processes, Incentives andAccountability

Development planning in any country can follow two broad models—it can either be an integral part of the political decision-making process or it can be divorced from politics where technocrats keep a firm hold on the planning process as a matter of rational and efficient management. In China, planning followed the first model. The State Planning Committee (SPC), and its subsequent variants, have been and remain at the center of China’s political and economic affairs. The SPC sets the national policy agenda, makes important policy decisions, and even guides the lawmaking process to ensure that these decisions are implemented.

Through a dual-track implementation system, its policy-making role also extends to closely monitoring and guiding policy implementation. Thus the Chinese planning institutions fully integrate political economy considerations in the process of designing and implementing development plans. In China, strong accountability for delivery of plans was embedded through powerful party structure and this has so far led to better economic outcomes in terms of growth and infrastructure development. The Indian planning process historically tended to be more technical than political.

Although the Planning Commission, with the Prime Minister as the Chairman, had some institutional ties to the political decision-making process, the process has tended to be more technical in reality, captured at times by technocrats who wanted to ensure rational and managerial efficiency. The planning institutions in India at the national and state levels adopted a consultative process for the formulation of plans. Plan formulations for important sectors were undertaken by working groups with broad mandates and high levels of technical expertise.

These working groups included not only representatives of the line ministries, but also financial sector, private sector, andacademicinstitutions. This process of participation, however, worked well only in the initial phase of the preparation of formal plan documents. Most of the times, there was disconnect between targets and performance, plan and implementation, and demand for resources and actual availability of funds. As a result, in most years until recently, infrastructure projects were actually built on a piecemeal approach.

Unlike the dual-track system in China, overall implementation in India has more often been divorced from the planning process. Similarly, policy-making too was fragmented where, for example, a number of policy reforms have been often decided by committees and working groups, without the Planning Commission always being in charge of the process of reform designs or action plans for implementation. India’s planning ability, widely regarded as world class, was not backed by underlying incentives and accountability systems in China that delivered better outcomes. Infrastructure Sector Reforms

The planning framework for infrastructure was very different in China and India. Similar to their efforts in rural transformation and agricultural modernization, China was able to adopt a dual benefit infrastructure development policy—to build infrastructure that will promote economic growth and to build systems that directly target poverty reduction. The vast program of building expressways was complemented with several programs that would directly benefit the poor. Having a centralized political system with complete State control made it possible to take risks that would have been more difficult under alternate political paradigms.

The political costs of direct dissent were relatively small, if not entirely absent in China. Until 1994, the Indian government did not have a comprehensive framework for infrastructure. Most of the government interventions were through large number of sector ministries and departments—Ministry ofFinance, Planning Commission, Pricing bureaus, state-owned enterprises (SOEs), etc. Since there were so many actors, the entire spectrum of infrastructure functions, namely, planning and policy making, regulation, production, and supply tended to be dominated by public sector SOEs.

The SOEs in these sectors had the skills and capabilities to influence important decisions; however, accountability structures were being weakened due to excessive interference by political “ bosses”. Reforms in the Indian electricity sector have not been very successful, despite the fact that these were pursued more systematically with amendment of the Electricity Act in 1991, which allowed private sector participation and even

100% foreign ownership. This alone did not lead to real improvements on the ground until recently.

Part of the problem lay in the lack of a credible regulator, partly due to a political setting that remained uncoordinated. The electricity sector in the Indian federal system remains on the “ concurrent list,” implyingresponsibilityfor the sector by both the central government and the state governments. One of the most important factors that remained uncoordinated was the funding issue. A large number of states had followed the practice of subsidizing power for agriculture and, as a result, there was ambiguity regarding who was going to pay for the power.

The financial status of most of the State Electricity Boards (SEB) was grim, with most experiencing large and unsustainable deficits. In the early 1990s, the rate of return on all SEBs combined was highly negative (-13. 5% of capital employed). Until 1998-99, private investments were allowed only in power generation in India. Private sector participation in power transmission was allowed but private sector participation in power distribution did not occur until 2003.

Although many states have set up independent regulators that have been fairly effective, the fundamental issue of who pays for the subsidized power has remained an important challenge. Unlike India, however, China’s power sector reforms have been relatively more successful in terms of the level of foreign and private sector participation in reducing the funding gap. The foreign private sector was welcomed into China, not only due to the need to augment financial resources, but also for the needed manufacturing capacity

to produce the power generating equipment for an ambitious capacity expansion program.

Foreign direct investments (FDI) in China took various institutional forms such as joint ventures, build-operate-transfer (BOT) types of arrangements, equity joint ventures, loans, and equity in the existing energy enterprises. In 1996, the sector was further reformed under the new Electricity Law that created the State Power Corporation of China as an entity separate from the Ministry of Electric Power, thus signifying a first step to separating regulation from actual production and supply. Given the dual pricing system of " new plant, new price," China's power sector funding gap has not been as large as that of India.

A majority of farmers in China believe this TO GET RICH, BUILD ROADS FIRST; TO GET RICH FAST, BUILD FAST ROADS saying. Numerous recent studies have demonstrated that the greatest effect on poverty reduction can come from investments in the transport sector, particularly roads. It has been shown that an efficient road network increases access to services and economic opportunities, facilitates domestic market integration, lowers the cost of production and transportation, and allows healthy competition both domestically and internationally.

In addition to accessibility, the quality of the roads also plays an important role in economic development. Although China had a late start, its achievement in building an extensive national road network in the last two decades has been unprecedented. With almost 30, 000 km of expressways, China is fast catching up with the U. S. , which has the world's largest road

network. China is adding 5, 000 km of expressway every year, expecting to reach a level over 80, 000 km by 2020.

Before discussing the current state of the Indian road network, it is useful to touch upon three important trends that have significantly influenced the way in which road infrastructure has been developed and utilized in recent decades. First, there has been a gradual but persistent mode shift in India from rail to roads. In 1960, rail carried 85% of goods traffic and 51% of passenger traffic; by 2001, those percentages had declined to 23% and 13%, respectively. The vast majority of this demand appears to have shifted to the road system, which currently accounts for 70% of freight transport and 85% of passenger transport.

Second, with rising GDP, demand for automotive and freight travel has grown rapidly and consistently. Third, despite the stunning growth in road transport demand, investment in new highway capacity has been anemic. These three trends, taken together, help explain the current state of the India's road infrastructure, which is now both woefully underdeveloped and over-utilized. Even though the Indian road network as a whole is denser than that of China, its highway component is comparatively underdeveloped.

Despite significant improvements since the establishment of the National Highway Administration of India (NHAI), in contrast, India’s existing national highway network is characterized by slow speeds, heavy congestion and low service levels. It is not only the Indian road network that has remained under-funded —almost all other infrastructure services remain, at present, far below the level required to sustain the economic growth needed to

address pervasive poverty Important lessons learnt On Infrastructure development

When it comes to roads, the importantgoalsfor future development of India’s road infrastructure are given as follows:

- Upgrading the capacity and efficiency of existing infrastructure.
- Establishing total connectivity for an all-weather rural road network
- Developing a modally-balanced transport system, particularly in urban areas
- Contributing to a reduction in regional disparities
- Contributing to sub-regional economic cooperation
- Putting a much greater emphasis on safety

In order to perform their tasks more effectively, these national, state, and local agencies must collectively overcome a number of structural challenges, many of which can only be solved through policy or institutional reform. At the broadest level, the most pressing issues fall under the categories of poorly defined bureaucratic structure/mission, insufficient accountability, poor asset/system management, and inadequate resource mobilization. These categories can be broken down into greater detail as follows:

- Poorly defined bureaucratic structure/mission
- Unclear or overlapping responsibilities, often with no agency in charge
- Multiple mandates including roads, buildings, and irrigation
- Absence of clear strategic goals, mission statements, performance indicators, or investment plans
- Insufficient accountability

- Failureto separate policy and operational roles for clear accountability
- Not enough consultation with road users
- Failure to report all relevant information
- Failure to impose sanctions on poor performance
- Absence of independent bodies to verify information and assess performance
- Inappropriate evaluation techniques that are merely input-based, focusing solely on accounting for expenditures against the budget.
- Taking into consideration the physical or operational conditions of the actual road network.
- Poor asset/system management
- Inadequate attention to data collection and analysis in decision-making
- Excessive focus on new investment vs. maintenance Uneconomical investments made under political influence
- Lack of competition in procurement
- Need for leaner staffing with greater skill-set diversification
- Declining investments in transport relative to GDP
- Input from private finance still very limited
- Need to make better use of user charges in the form of gas taxes or tolling

Though these problems are daunting, agencies at various levels within the government have taken initial steps to address them in recent years. Within the central government, notable examples include:

- Increasing the level of public funding for transportation within the Five-Year Plans

- Creating the Central Road Fund (CRF) to finance road development and maintenance through an earmarked " cess" (tax) on diesel and gasoline
- Operationalizing the National Highways Authority of India (NHAI) to act as an infrastructure procurer rather than a provider
- Establishing the National Highways Development Project (NHDP) to upgrade the nationals major highway routes
- Amending the National Highway

Act to expedite land acquisition, permit private participation in road financing, and allow for the tolling of public roads In addition to standard techniques, such as the issuance of state- and federally-backed bonds, more innovative public-private partnership arrangements have also been developed.

Examples include BOTs (build-operate-transfer contracts, in which a private partnership builds and operates a facility for a fixed number of years, recouping its expenses plus a reasonable profit through tolling, before transferring the facility back to the state) and other forms of maintenance and operations concessions. Though there is an overwhelming recognition of the contribution of infrastructure in modern economies, the links between infrastructure and economic growth and poverty reduction is neither certain nor automatic. Infrastructure development results in improvements in productivity and in overall quality of life but the impact is still contextual.

A study prepared jointly by three major development institutions—the Asian Development Bank (ADB), Japan Bank for International Cooperation (JBIC), and the World Bank (WB)—advocated that it is not enough to examine

impacts of infrastructure without broadening and deepening the definition of poverty and economic growth. In the study, the impacts of infrastructure are seen to occur at three levels—first, through facilitating economic growth; second, through improving quality of life; and, finally, through enhancing broader social and economic capabilities. Nevertheless, manufacturing and exports have proven to be key drivers to economic performance of less developed and developing countries. Infrastructure provides connections to the global economy that are crucial for export competitiveness and manufacturing. China used infrastructure as a policy instrument and active political tool to reduce poverty and trigger growth.

The Chinese government had a strategic vision that was combined with a sustained drive toward economic growth, which resulted in unprecedented growth, poverty reduction, and gains in efficiency, but at a cost of increased inequality and great regional disparity. India started with a very rational approach of maintaining a balance between growth and distribution, but changed mid-course to a greater emphasis on redistribution. India learned the hard way that a greater emphasis on redistribution was not viable without robust and sustained growth. The resulting consequences were limited improvements in growth and poverty reduction with relatively little impact on income distribution.