An Analysis of Challenges to Infrastructure Industry in India: Concomitant Impediments to Growth Prospects

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ABSTRACT

Infrastructure growth and development is a key determining factor of the economic and social growth of a country. India's potential and the existing infrastructure are upsettingly not aligned. The present study has intended to focus on the challenges relating to the growth of infrastructure projects in India, and for which it is bifurcated into nine parts. The first part introduces the theme of the paper highlighting the current position and recent developments and growth pattern in the field. From the second part onwards, each challenge is discussed in detail. The second part discusses the financial crunch acting as an impediment to the funding of infrastructure projects. The third part acknowledges the long-existing issue of land acquisition. The fourth part highlights one of the major concerns of delay in clearances and the inadequate regulatory framework. The fifth part discusses the contractual impediments that arise at both the pre-and post-stage. The last form of challenge that has been dealt with in the paper is the natural and technical challenges. While tracing the challenges faced by the industry, the seventh part of the paper discusses the turmoil caused by the pandemic and discusses the possible issues and their solutions. The eighth part of the paper provides some suggestions for India's infrastructure development and growth, based on the analysis drawn by studying different challenges faced by the industry. The paper is concluded in the ninth part.

Keywords: Financing, Land acquisition, Clearance delays, COVID-19, Contractual impediments.

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Present Scenario

India ranked as the fifth-largest economy in the world by IMF's October World Economic Outlook[1] and is projected to be the only economy to have a growth rate of 12.5 in FY 2021-22[2]. Despite the positive growth, the second-fastest growing economy faces a huge challenge of lack of world-class infrastructure. The infrastructure of a country is one of the major determining factors of its development. India's fast growth has led to increased stress and usage of physical infrastructure, *inter alia* power, roads, airports, and ports. The lack of proper infrastructure decreases the country's GDP growth by 1-2 per cent every year.[3] The infrastructure has a "multiplier effect" on a country's economic growth, i.e., an investment equal to 1% of the GDP of the country in the infrastructure results in a minimum 2% growth in its GDP.[4]

As per the Ministry of Statistics and Program Implementation, the composition of the infrastructure sector in India *inter alia* includes construction, railway tracks, signalling systems and stations, roads and bridges, runways and other airport facilities, telecommunication network, gas and electricity generation, transmission and distribution.[5] India's infrastructure industry's growth capacity is an attractive feature to attract global interest, especially business partners. However, despite being an attractive source of investment, India's infrastructure growth isn't at par with its potential, provided the exorbitant investment.

Aligning India's economic growth with the country's infrastructural capabilities is the need of the hour. Better quantity and quality infrastructure help in raising physical capital and the productivity of humans and hence the growth of the nation. Infrastructure development is the answer to various growth-related problems; for instance, Indian Railways plan to electrify 28,810 km of broad-gauge routes around the country by December 2023 can avoid geopolitical difficulties with oil, reduce energy consumption drastically, provided the target is achieved.[6] The approach towards rapid infrastructural development is evident from the efforts of the Government by putting into motion new projects like the Bullet Train Project and the NextGen Airport for Bharat Nirman. The BJP government has tried to keep its focus on the infrastructure sector, and the same is expected to remain unchanged for a while. Even the Union Budget of 2021-22 termed infrastructure as one of its six pillars.[7]

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[1] International Monetary Fund, *GDP, Current Prices*, https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD/IND (last visited Mar. 15, 2021)

[2] International Monetary Fund, *India: At a Glance*, https://www.imf.org/en/Countries/IND#ataglance (last visited Mar. 15, 2021)

[3] Geethanjali Nataraj, *Infrastructure Challenges in India: The Role of Public-Private Partnership*, Observer Research Foundation, https://www.orfonline.org/research/infrastructure-challenges-in-indiathe-role-of-public-private-partnerships/ (last visited Mar. 17, 2021)

[4] Abhimanu Kumar Gard, *Challenges faced by infra sector*, https://abhipedia.abhimanu.com/Article/IAS/MTI4Mzkz/Challenges-faced-by-infra-sector-Economic-Affairs-IAS (last visited Mar. 19, 2021)

[5] Ministry of Statistics and Program Implementation, Government of India, *Introduction*, http://mospi.nic.in/81-introduction (last updated May 25, 2021)

[6] Nitin Prasad, *Indian Railways to electrify all board gauge routes by 2023*, https://www.financialexpress.com/infrastructure/railways/indian-railways-to-electrify-all-broad-gauge-routes-by-december-2023-bets-on-renewable-energy-details/1901685/ (last visited Mar. 20, 2021)

[7] Ministry of Finance, *Key Highlights of Union Budget 2021-22*, https://pib.gov.in/PressReleasePage.aspx?PRID=1693907 (last visited Mar. 20, 2021)

Despite the initiation of these big projects, the real picture depicted by the statistics proves the contrary. As of April 1 2021, a total of 1736 central sector infrastructure projects which cost ₹150 crore and above, are in the record of the Online Computerized Monitoring System. Based on the original project implementation schedules of these 1736 projects, 449 projects show cost overruns, 547 projects show time overruns, and 208 projects show both.[8] With a high population, the demand for and strain on infrastructure also increases. For instance, India's road transport, which is the cornerstone of India's transport infrastructure, continues to be insufficient and inadequate in terms of quantity, quality and connectivity.[9] Other modes of transport also suffer due to such inadequacy, namely, airports and ports, which require modification and modernization. Moreover, the supply and demand are often imbalanced in the case of electricity, ultimately hampering the manufacturing and overall lifestyle and growth. Even during waves of COVID-19, India suffered a horrifying menace because of inadequate health infrastructure. The Government's commitment to infrastructure investment is not enough to meet the requirement. As per the economic survey 2018-19 conducted by the Indian Parliament, an investment of $200 million a year is required to meet its growth targets, whereas the then investment amounted to around $100-110 million a year, half the required investment.[10] This indicates that despite the steps taken by the Indian government, for instance, investment in greenfield and brownfield infrastructure projects from the Sovereign Wealth Fund, the current investment is below the required mark.

Goals that India has set, one being a $5 trillion economy, can only be achieved by covering India's infrastructure deficit. Completion of infrastructure projects often involves an inevitable delay in time and on cost. The present study is intended to focus on the challenges relating to the growth of infrastructure projects in India. With the help of the doctrinal method, the proposed paper has attempted to highlight the reasons and challenges leading to delay or non-completion of infrastructure projects in the country. Simultaneously making a case for infrastructure reforms to precede the growth of economies, taking the hypothesis that industrial and social growth is contingent upon the development of infrastructure in the country.

Financing

Finance is the backbone of any infrastructure project and, in turn of the economic development of a country. Infrastructure financing faces high regulatory, macroeconomic and institutional constraints due to its characteristics such as huge initial investment, bulk purchases, high valued equipment, advance payments, high gestation period, high political, policy and procedural uncertainties. The rate of infrastructural investment in India is significantly low compared to the statistics seen in other sectors. The financial closure rate is worryingly low due to various factors, including the long-term payback period. The primary objective of any business is to earn profits, and infrastructure projects have a high payback period due to their long-term financing structure, which often leads to a reduction in short-term profits. These

8 Lok Sabha, Parliament of India, http://loksabhaph.nic.in/Questions/QResult15.aspx?qref=23688&lsno=17 (last visited Mar. 20, 2021)

9 Supra note 3 at 1

10 Rail Analysis India, *Why infrastructure is critical to India's economic development,* https://news.railanalysis.com/product-expertise-why-infrastructure-is-critical-to-indias-economic-development/, (last visited Mar. 22, 2021)

factors hinder the developers from indulging in further projects due to the failure to raise more capital or manage over-leveraged balance sheets resulting from raising debts.

Indian projects are majorly financed by budgetary support and traditional funding avenues such as loans/debt from banks or financial institutions, international agencies, NBFCs and mutual funds, and equity investments from government agencies, sponsors and strategic investors.

The major problem in Indian infrastructure financing is not the deficiency of savings rather, it's the deficiency of adequate financial intermediation and inadequate mobilization of savings into the infrastructure industry. The issues with infrastructure financing can be listed in the following parts. First, infrastructure projects are subject to uncountable risks, including delays in clearances, policy changes, etc.; with every event causing a delay in project implementation or continuation, both cost and time overruns increase, and the techno-economic viability of projects suffer. The entire financing of the project is disturbed due to these delays. Second, infrastructure development in India is dominated by monopolies. To curb the abuse of monopoly power, the government tries to retain control. The legal arrangements made ensure sharing of risks and proper distribution of payoffs. Third, the lending capacity is hampered when conventional financial tools are used for project evaluation. Fourth, the restricted investment horizon for lenders and investors is an issue; for instance, for most infrastructure projects, 10-15 years would be the peak period, whereas the time given is around 7-10 years.[11]

Banks

Banks play the most vital role in financing, however, due to reasons like restricted balance sheet size, absence of willingness to lend to infrastructure sectors and drastically increasing non-performing assets, they don't expand their capital. Outstanding debt to banks by the infrastructure sector increased from ₹95 billion in 2001 to ₹9,853 billion in 2016.[12] The major issue is the inability of commercial banks to extend long-term loans to the sector, the long gestation period vis-a-vis shorter-term recourse base of banks leads to asset-liability mismatch. Moreover, the Indian corporate bond market is nowhere near an adequate financing standard.

Private Sector

Private financers often indulge in over-aggressive bidding without conducting adequate due diligence leading to unviable offers. They face challenges such as inadequate provisions catering to contractual and legal challenges *inter alia* change of scope of events, default by parties, exit clauses, connectivity infrastructure. A decrease in capacity to infuse equity has led to increased over-leveraged balance sheets of project developers. A vicious cycle is created when delay turns loans into non-performing assets (NPAs), which in turn reduces the capacity to lend to the infrastructure sector.

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[11] Anup Kapadia, *Role of Capital Market in Financing Infrastructure Projects*, https://www.primedatabase.com/Article/dir-99ar7.pdf (last visited on Mar. 29, 2021)

[12] Reserve Bank of India, *Issues in Infrastructure Financing in India - N. S. Vishwanathan*, https://rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=16615 (last visited on Apr. 2, 2021)

Debt financing is the most optimal source of finance for the infrastructure sector due to its long gestation period. This activity is majorly controlled by the banking system and non-banking financial companies (NBFCs). Post the drastic surge in NPAs in the banking sector, the infrastructure sector placed its reliance on NBFCs for finance. However, in recent years, NBFCs have met the same fate as the Indian banking system[13], i.e., the NPAs in NBFCs have increased drastically, especially after the IL&FS default in 2018. The suspected surge in NPAs in NBFCs led to the diminished willingness of banks to lend to NBFCs and hence affecting the capital flow in the infrastructure sector. Cautious NBFC lending and the increased interest rate charged by NBFCs have decreased the profit margins of the developers.[14]

Difficult conditions, for instance, the guidelines of regulators like IRDA provide that 75% of debt investments in the company's portfolio shall have AAA rating, and the rating quality of investment bonds shall not be less than AA. These conditions are often arduous to fulfil, leading to a decrease in long term investors.

A positive step was taken by the Ministry of New and Renewable Energy wherein, in the bidding process for renewable energy projects, bidders were permitted to furnish letters of undertaking issued by REC, IREDA, etc., instead of bank guarantees. This can help in the decrease of margin cost for obtaining bank guarantee and bidding process-related costs.[15] Similar amendments shall be made to other infrastructure projects as the bidding cost forms a part of the total cost of the project.

Foreign Investors

Foreign investment can help national and state governments to share expertise and also learn from international standards and techniques, for instance, British specialist contractor Invicta Durasteel while working closely with the Kolkata Metro Rail Corporation, shared their knowledge of working on other metro projects in other parts of the world and thereby installed Durasteel fire protection barriers in the Kolkata Metro Line 2 to increase the safety measures for passengers and staff. FDI in India even reached its highest level in 2020, however, FDI in Indian Infrastructure, especially the construction sector, has been consistently decreasing for a few years. This is an agonizing scenario for a developing country like India, and in order to meet the current government's plans for infrastructure development, FDI in infrastructure shall increase.

PPP Projects

The traditional trend of public sector control over infrastructure development has been depleting post-implementation of the 1990s policy regime. However, it is only in the past few years that PPP projects have been greatly encouraged. The Government of India has taken a few remarkable steps to finance PPP projects. First, the establishment of the India Infrastructure Project Development Fund (IIPDF) to assist up to 75% of the

13 Joel Rebello, NBFCs staring at a sharp rise in NPAs this fiscal: Crisil, Economic Times (feb. 12, 2021), https://economictimes.indiatimes.com/markets/stocks/news/nbfcs-staring-at-a-sharp-rise-in-npas-this-fiscal-crisil/articleshow/80978874.cms?from=mdr

14 Shephali Kapoor, *Impact of NBFC Crisis on Indian Real Estate*, https://www.99acres.com/articles/impact-of-nbfc-crisis-on-indian-real-estate.html (last visited Apr. 5, 2021)

15 Hemant Sahai , *India needs a new Financing framework* https://www.mondaq.com/india/financial-services/994294/india-needs-a-new-infrastructure-financing-framework (last visited Apr. 8 ,2021)

PPP project development expenses provided the said projects meet the criteria.[16] Second, the establishment of India Infrastructure Finance Company Ltd. (IIFCL). Third, the establishment of Viability Gap Funding (VGF) by the Government to fund infrastructure projects was seen as a helpful axiomatic initiative. However, in authors' perspective, it has not been comparatively successful and has under-served the purpose since its inception, and the reliance has been placed on the statistics released by the Cabinet Committee on Economic Affairs in 2020, according to which from its inception in 2006 only 64 projects, costing ₹34,228 crores have been accorded the final approval and VGF of ₹5,639 crores.[17] However, the Modi Government has revamped the scheme in December 2020 and has also extended the funding to social infrastructure projects which are considered an unviable step but its importance in society cannot be less emphasized. It would be too early to predict its success as it would entirely depend on its implementation.

Another issue is that many Indian construction companies are bankrupt and undergoing the process as per the Insolvency and Bankruptcy Code, 2016. Recently, the Calcutta High Court observed that the award holder's claim is distinguished once a resolution plan under IBC is passed, which is binding on the stakeholders involved.[18] Many PPP projects are hampered when a project developing company that is a part of the said project is involved in either a dispute against a company undergoing insolvency or bankruptcy process under IBC or it's itself undergoing process under IBC.

The Government has established various institutions or funding mechanisms such as Infrastructure Investment Trusts (InvITs), Real Estate Investment Trust (REIT), Infrastructure Debt Funds (IDFs), and India Infrastructure Finance Company Ltd. (IIFCL) to augment Indian infrastructural growth. Unfortunately, these have not been able to solve the issue of infrastructure financing, majorly due to their ineffective implementation and functioning.

Land Acquisition

Whether it be a public or private infrastructure project or a public-private partnership project, it necessitates control over the land. Long, cumbersome and dispute arising land acquisition process discourages and puts the investment at stake. Any investor risks its capital on a project where an adequate return can be forecasted, and land acquisition impediments in the first stage of the project work as a red flag for any investor. India is still an agrarian economy as almost half of its population continues to reside in rural areas and draw their income from agriculture. Thus, acquiring land for infrastructure projects, which is the primary requisite, becomes a challenging task and many projects are delayed due to the same, for instance, the Mumbai-Ahmedabad bullet train is expected to miss its 2023 deadline due to the delay in land acquisition in Maharashtra.[19]

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[16] PPP India, *FAQs,* https://www.pppinindia.gov.in/faqs (last visited Apr. 9, 2021)

[17] Cabinet Committee on Economic Affairs (CCEA), Government of India, *Cabinet approves Continuation and Revamping of the Scheme for Financial Support to Public Private Partnerships in Infrastructure Viability Gap Funding VGF Scheme,* https://pib.gov.in/PressReleasePage.aspx?PRID=1671910 (last visited Apr. 9, 2021)

[18] *Sirpur Paper Mills Limited v. I.K. Merchants Pvt. Ltd.* (2018) 6 SCC 287

[19] Ashutosh Kumar, *Mumbai-Ahmedabad bullet train to miss 2023 deadline on land delay in Maharashtra: Piyush Goyal,* Business Today (Feb. 4, 2021)

The issue of delay in land acquisition can be further bifurcated into two parts: first, the disputes that arise during the process and the time taken for their disposal; and second, the uncertainty of the law due to state amendments and lack of uniformity.

Disputes

Disputes within contractual negotiations and implementation are inevitable, however, the duration for disposal of these disputes is an impediment that shall and can be solved. As per the Centre for Policy Research (CPR)'s research, it was found that an average of fifteen years was taken to pass the High Court judgment from the date of notification of acquisition; the average time between the High Court and the Supreme Court judgments was six years, and collectively average time period between the initiation of acquisition proceedings and the Apex Court judgment was twenty years.[20] The statistics portray the inefficient dispute resolution process over the years. Land Acquisition, Rehabilitation and Resettlement Act, 2013 (hereinafter the "LARR Act") was considered as a step in the right direction by repealing the colonial-era Land Acquisition Act, 1894. The Act, *inter alia*, made three major changes: first, it permitted livelihood losers along with title-holders to claim compensation along with rehabilitation; second, made provisions for adequate and better compensation than before; and third, introduced requirements of social impact assessment (SIA) and consent of the affected people.

The 2013 Act was implemented to offer better rehabilitation and compensation mechanisms, thereby expected to reduce the time and the number of disputes, however, the LARR Act's provisions still leave scope for executive discretion, thereby giving rise to litigation. Even after seven years, several States have not created the authority to whom references from Collectors' awards shall be made.[21] The Act is considered as anti-industry as the land acquisition, rehabilitation and compensation process has been made too rigorous, making it even harder to acquire land for projects. CII's estimates had observed that the cost of acquisition is expected to be increased 3.5 times, severely affecting and adding to the pre-gigantic cost of the infrastructure projects.[22] A recent report substantiates this fact which provides that NHAI is paying three times the cost to acquire lands, and it forms a quarter of the entire project's cost.[23]

https://www.businesstoday.in/sectors/infra/mumbai-ahmedabad-bullet-train-to-miss-2023-deadline-on-land-delay-in-maharashtra-piyush-goyal/story/430330.html (last visited Apr. 12, 2021).

[20] Centre for Policy Research, *Understanding Land Acquisition Disputes in India*, https://www.cprindia.org/news/understanding-land-acquisition-disputes-india (last visited Apr. 19, 2021).

[21] Leah Varghese, *Opinion: Refine land acquisition process to unclog courts*, Financial Express (Sept. 1, 2020), https://www.financialexpress.com/opinion/opinion-refine-land-acquisition-process-to-unclog-courts/2070959/

[22] PTI, *Land acquisition cost may go up to 3.5 times: India Inc*, Economic Times (Aug. 29, 2013) https://economictimes.indiatimes.com/news/politics-and-nation/land-acquisition-cost-may-go-up-to-3-5-times-india-inc/articleshow/22146778.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

[23] Iyer, India's National Highways Authority is paying three times more for land-- and that may slow down new projects, Business Insider (Sep. 18, 2019) https://www.businessinsider.in/indias-national-highways-authority-is-paying-three-times-more-for-land-and-that-may-slow-down-new-projects/articleshow/

State Amendments' to the LARR Act, 2013

The Parliament failed to pass a Central Amendment in 2014-15 to the LARR Act, 2013. State governments have been exercising their power to amend the law based on their state requirements as "acquisition and requisitioning of property" is a Concurrent list subject. States, namely Gujarat, Maharashtra, Tamil Nadu and others, made amendments to the LARR Act. For instance, Maharashtra exempted PPP projects from SIA and consent provisions. In the authors' opinion, these state amendments disturb the uniformity of law applicable for land acquisition, especially in cases where more than one state is involved in a project. A recent incident that highlights the issue is where the Madras High Court[24] , by passing an order, declared the amendments introduced by the Tamil Nadu Government into LARR Act as null and void. It is the same Act under which land was acquired for famous projects including the Chennai Metro.

The Court also cancelled all land acquisitions under the law in question since 2014 except the ones already put to use. Such events pose a threat to infrastructure development as, first, they cause a delay in infrastructure projects and, secondly, hamper the confidence of investors, especially foreign investors. However, it would be interesting to note the Apex Court's judgment on this matter which stands reserved as it is expected to insinuate other states, including Maharashtra and Karnataka, have similar laws in place. Amendments that are contrary to the main Act, even if made to support infrastructure development, ultimately pose a threat to these projects by creating a choc-a-bloc and causing delay.

Therefore, such unstable and drastic changes in the law and interplay between judiciary and state legislature often lead to delay in projects and create uncertainty leading to a decrease in investment and is thus not advisable.

It is important to note that major issues with land acquisition for any infrastructure project are the improper implementation of policy and plans for the rehabilitation of people displaced or impacted due to the development and the sensitivity of a particular area, as in the case of Special Economic Zones (SEZs). The opposition from the locals has led to the cancellation of the proposed Special Economic Zones (SEZ), for instance, in Singur and Nandigram in West Bengal. To conclude this sub-part of land acquisition, it can be stated that land acquisition is a pivotal step and other than disputes and law, administrative and bureaucratic defaults also lead to avertable delays, which, if not stopped, would continue to be lethal for the Indian infrastructure growth.

Regulatory Framework - Delay In Clearances & Implementation

Another impediment in infrastructure growth is the inadequate regulatory framework compounded by the inefficient approval process involving the central and state governments and concerned authorities. Most of the laws require prior approval of concerned authorities in order to perform actions along the way for project development. This inevitable step places the project developers into a vicious circle running after various authorities and ministries to seek clearances or approvals. Delay in clearances holds back the financial closure of projects. In India's infrastructure development history, one of the significant challenges that project developers had to face was undue delays in the continuation or even commencement of projects owing to

[24] *Caritas India v. Union of India*, 2019 SCC OnLine Mad 2167

non-timely regulatory and administrative compliances. It is crucial to note that mere obtaining approvals isn't the goal; rather, obtaining approvals in a time-efficient manner and with minimum hassle is. Often these regulatory and administrative delays lead to both time and cost overruns making it difficult to hold investors' trust and to not compromise on the quality of the project. There is a lacuna of a single-window clearance mechanism in India's regulatory regime. At present, the time taken for procuring all clearances and ultimately the project commencement certificate extends up to two years. A single window clearance mechanism can help reduce this time period drastically.

Different ministries' involvement whether while seeking approvals or regulatory compliance, leads to a conflict of perspectives and unnecessary delay. India suffers from poor coordination among various ministries. It has been witnessed that state and Union Territories governments belonging to different political parties either reject the approvals or create hindrance in the project's continuation. An effective functioning demands coordination and cooperation among various authorities. Checks and approvals at every stage are crucial to provide transparency, work quality and adherence to the law. However, departments can suggest changes in the project during its life cycle, often leading to cost and time overruns. Major issues with the functioning of Indian regulatory bodies and departments in charge are red tape, bureaucratic complexities and long procedures.

Compliance with environment safeguards and guidelines *inter alia* Environment Impact Assessment (EIA) often lead to delays. The most common example is the delay by three years of Hyderabad Airport due to litigation involving environmental threat reasons. A disincentive feature is the evolving nature of environmental safeguards and guidelines, in continuing projects, even if approvals were received before beginning the project, compliance with revised standards can be sought by the authorities midway. Especially cases of projects involving ecologically sensitive areas face higher constraints as the quantum of approvals, and simultaneously the involvement of different departments increases making it more complicated and time-consuming. Time taken for final environmental clearances was 176-336 days in 2017-18.[25] To reduce the time taken for assessment procedure and final approvals by the Expert Appraisal Committee (EAC), the ministry has recently directed that the EAC meetings shall be conducted twice a month, and the requirement of compulsory presence of Project Proponent or the consultant for presentation has been done away with. This is seen as a positive step by the industry specialists; however, the authors believe that implementation is the key, and unless these steps are brought into effect effectively, the situation will remain the same.

Implementation of projects is hampered due to various factors, including lack of properly trained manpower, lack of management and technical skills and poor site management. While implementation, other than intra-organizational dependency, there also exists inter-organizational dependency as there is an interdependence among departments which leads to easy shoving away of the blame. Thus, to conclude delay in clearances also means a delay in implementation making it important to be tackled.

[25] Ministry of Environment, Forest and Climate Change, *Time Taken for Environmental Clearance*, https://pib.gov.in/PressReleasePage.aspx?PRID=1519148 (last visited Apr. 23, 2021)

Contractual Impediments

Contract forms the heart of any project. The Erection, Procurement and Construction (EPC) turnkey contract signed between the authority (tenderer/employer) and the contractor (tenderee/employee) or EPC Split Contracts namely offshore or onshore supply contract, services contract, works contract and umbrella contract, play a crucial role in deciding the trajectory and outcome of the contract. In the case of Fixed Price Fixed Term Turnkey EPC Contract, failure to comply with any part of the contract results in the contractor incurring monetary liabilities. The degree of precision for the drafting of a contract directly affects the cost and time overruns. A well-drafted contract covering all possible threats and emergency situations to avoid cost and time overruns is ideally sought to be achieved. Such a contract contains provisions for duties of both the parties, obligation to cover costs in case of emergency, the extension of the time period by including a force majeure clause, etc. However, in the practical world, it has been observed that it is nearly impossible to predict or foresee all future happenings and construct the contract accordingly. Especially, in the initial stages of the project, it is often difficult to identify possible contingencies, more specifically for projects with long gestation period such as power and civil aviation projects. Lesser explored sectors are more susceptible to cost overruns as they lack sufficient prior experience leading to the addition of unexpected additional costs. Poor drafting and planning add work and unpredicted costs leading to delay.

In the case of PPP contracts, disputes that arise often lead to delay. These disputes could be suits filed by unsuccessful bidders challenging bidding process or, non-compliance of the obligations of concerned authority or government or, to decide who would pay the cost overrun or, to invoke bank guarantee in case of delay in performance or, deciding issues related to invocation of force majeure clause or, issues in case of change in law or, termination payouts.

Disputes related to the interpretation of infrastructure project contracts are a major demotivator for investors in India, keeping in mind that it takes on an average of four years for each claim to be settled or resolved while the cost incurred is on average 31% of the claim value.[26] Moreover, India ranked 163 in the world out of 190 countries in enforcing contracts.[27] All these factors, i.e. cumbersome judicial disposal of disputes and implementation of contracts, exacerbate the growth prospects of infrastructure in the country.

Blacklisting of Companies

It is the practice of blacklisting companies by the Government, both central or state. The principal legislation governing contracts in India is the Indian Contract Act, 1872. The Government derives its power to enter into contracts for the purpose of trade or business provided the said business or trade isn’t the one on which the Parliament can make laws from Article 298 of the Indian Constitution. The Executive is responsible for making laws to govern contracts made in accordance with Article 298. As per the concept of blacklisting of companies, the government blacklists those companies which aren’t able to comply and fulfil the contractual terms or violate the provisions of the

[26] L&L Partners, *Construction And Infrastructure Contracts, pg. 15 (2019)*

[27] Doing Business, *Ease of Doing Business in India*, https://www.doingbusiness.org/en/data/exploreeconomies/india# (last visited Apr. 25, 2021)

contract, directly or indirectly, provided existence of a prior contract between the government and the company. Infrastructure projects contracts, which are highly susceptible to internal and external factors leading to time and cost overruns, are prone to blacklisting.

It has been contended over time that the process of blacklisting of companies is in violation of the principle of natural justice. The judicial pronouncements on this matter have been contradictory. For instance, in a landmark case of *Raghunath Thakur v. the State of Bihar*[28], the Apex Court held that even in the absence of an express provision to serve notice and provide an opportunity to be heard to the company, the company shall still be provided with the notice and the opportunity to be heard as when civil rights of a person are affected PNJ shall be complied with. However, the Court took a contrary view in the case of *M/S Patel Engineering Ltd v. UOI & Anr.*[29] and held that as long as the blacklisted company is permitted to present their case, even if the chance of oral hearing isn't given, it wouldn't amount to a violation of the principle of *audi alteram partem*. In another highly criticized judgment[30], the Court held that notice and the opportunity to be heard shall be provided, however, it observed that providing reasons for blacklisting isn't mandatory. *The* above-mentioned precedents, among others, make a case for and substantiate that the blacklisting of companies violates PNJ. Proper notice shall be served, an opportunity to be heard, and the reasons for blacklisting shall be provided,only then the process of blacklisting will be in compliance with PNJ.

The companies are forced to bear the economic cost associated with blacklisting which is significantly higher than the political and social costs borne by the government and the public, respectively. Economic costs comprise the damage to the reputation of the company affecting future business prospects and loss suffered due to cancellation or losing of projects. Political costs borne by the government isn't of a significant amount as the government isn't answerable to any authority for its reason. Social costs are equated with the cost for social welfare as the money of the taxpayers is affected when the projects taken up by these blacklisted companies are left incomplete. The already over-stressed project development companies or dealers suffer the brutal consequence of blacklisting or fall prey to blacklisting and often end up in the vicious cycle of dispute resolution.

Blacklisting of companies is evidently an important power provided it's used in a fair and reasonable manner with compliance to PNJ. Its arbitrary use shall be ensured by placing adequate checks and balances.

[28] AIR 1989 SC 620
[29] (2012) SCC 11 257
[30] *Eurasian & Chemicals v. State of West Bengal*, 1975 AIR 266

Technical & Natural Factors

Organizations often take up a greater number of projects than their financial and physical capacity. Further, certain technical and natural factors have a direct effect on the progress of the projects, some are listed below:

Shortage of trained and untrained labour-force

Labour force is another cornerstone of the infrastructure sector. Shortage of labour (in terms of numbers), both skilled and unskilled, is a threat that pulls down India's infrastructural growth to a large extent. This has a dual deterrent effect on the sector; first, it hampers the deliveries of projects both in terms of time and quality, and secondly, it also drives up the cost of the project, reducing the profitability. The demand-supply theory substantiates the fact that less supply of skilled and unskilled labour in high demand scenarios drives up the cost of labour. Secondly, implementation or continuation of projects is hampered due to low management and technical skills within employees of contractors or agencies. Thirdly, despite having the skills and an adequate number of labour, inadequate motivation of labour slows down the project. This could be due to various factors such as poor working conditions, inadequate salary etc. India suffers from a negative image regarding safety facilities offered by Indian infrastructure. Collaboration with foreign companies or investors to create projects with high safety standards can in turn boost the confidence of foreign investors by proving that Indian infrastructure projects can be produced effectively with positive outcomes. An unprecedented disruption in labour supply due to the pandemic led to the halting of many projects.

Budgetary Inaccuracy

entirely avoiding cost overruns is a mirage in the practical world as accuracy while calculating the estimate for projects can be errored. However, a feasible alternative is to minimize the budget inaccuracy. Budget accuracy, the difference between the actual (final) costs and the budgeted (estimated) costs of the project, is a prime factor for cost overruns. As per the 2019 Economic Times's report, the original cost of 1608 projects were ₹19,17,796.07 crores and the anticipated completion cost was ₹23,05,860.33 crores, creating cost overruns of ₹3,88,064.26, i.e., 20.23% of the original cost. Low budget accuracy has many reasons. The first reason is incorrect cost budgeting and estimation because often, the estimation teams fail to include adequate overheads. Ideally, the budgeted cost shall comprise cost, contingency costs and management reserves. The second reason is poor cost monitoring and usage of inadequate control systems. The third reason is inadequate vendor selection. Vendors are often selected based on the price, and the quality and track record aspect is often undermined. The fourth reason is improper contracts. A fixed-price contract can also minimize budget accuracy if the scope of the contract is well defined, or else a reimbursable contract shall be preferred. It can be done by conducting due diligence during the planning phase. Following three steps: cost management, estimate costs and determine the budget can help in budget accuracy.

Improper Site Management

Site management involves ideally three kinds of work during the construction process: tracking of the condition of equipment, design integrity and controlling the quality. Characteristics of poor management include vague communication, lack of planning, absence of support or inadequate evaluation of progress and lax control. Improper communication among different levels of the project developer is a major factor contributing to improper site management, for instance, often top management is aware of the site's happenings. Poor coordination among various specialists, namely architects, engineers and other consultants, adds to the heap of problems. Employing inexperienced supervisors, wrong selection of material, insufficient material, lack of site inspection, poor working conditions, few storage facilities, wrong curing procedures, lack of supervision and proper equipment are some of the problems in the site management. These issues can be categorized into technical, management and communication problems. Poor management also leads to accidents and safety issues. Usage of good management software, investment in training staff, periodic supervision can help address site management issues better.

Natural Factors

Natural factors play a crucial role and often catch the contractor off-guard due to their high unpredictability, for instance, hydropower projects are prone to high geological risks. Irrigational projects also face high geological and funding risks. Drastic weather changes also hamper the projects' growth. The only solution to minimize these adverse effects is better planning and management.

Delay in the Procurement of Materials

Material can be made available either by producing around the project area or importing the material from outside. Often locally produced material isn't sufficient for the local construction industry, making it inevitable to import either from other states or countries. Sourcing, procuring and transportation of materials often take extra time. In manufacturing or industrial projects, timely procurement of materials shall be of top priority. As late procurement leads to delay in delivery and eventually missing the project submission date. One reason for the delay could be an increase in the price of raw materials, for instance, even before the pandemic a 2018 Confederation of Real Estate Developers Association of India (CREDAI) report revealed that the cost of cement and steel witnessed a surge of around 20 per cent since 2017, and the cost of sand witnessed a 75 per cent jump in 2018.[31] The government or Environment Ministry sometimes ban the use of certain elements necessitating a change in the composition of raw material or equipment leading to delay in procurement.

Sectoral Uncertainty & COVID-19

The pandemic swept the entire world, causing an unbearable turmoil. It ramped down the functioning of various sectors, and the Indian infrastructure sector was no exception. Infrastructure projects are a result of both manpower and technology, and the pandemic had a drastic effect on both. The early statistics of 2020 issued by the Ministry of Statistics in April 2020 depicted that the construction of various projects ranging from roads to ports was already slacking off in terms of time by an average of three and a half years.[32] The pandemic added to its burden by shutting down air travel,[33]

[31] Nidhi Adhlaka, Looking for alternatives: rising material costs impact housing industry, The Hindu (Apr. 27, 2018) https://www.thehindu.com/real-estate/rising-costs-of-building-materials/article23695670.ece

[32] Ministry of Statistics and Program Implementation, Annual Report 2020-21, pg. 88 (2020)

escalating the lack of funds in distribution companies to pay power generation companies[34], etc. The infrastructure, especially the construction development, has been facing some unprecedented challenges due to central and state lockdowns, supply-chain and workforce disruption on every step.[35] The lockdown hampered the business continuity plans forcing many infrastructure projects sites to seek closure, or cancel their initiation, or slow down their progress. Both the existing and the work-in-progress infrastructure suffered due to the imposed lockdown. For instance, in Gurugram, 20% of the workforce has been reported to be reduced due to the pandemic.[36]

The primary reasons for this disruption are increased working capital pressure, stoppage of toll collection, halt in construction and most importantly, the labour crunch. Even major infrastructure projects like Central Vista are also facing the issue of labour shortage.[37] A drop of 20-25% in manpower has been witnessed at the NHAI project sites since April 1 in lieu of the second wave in India.[38] Various other reasons have added to the burden; for instance, land acquisition has become the biggest bottleneck for road infrastructure projects during the Covid as district-level officers have been busy with Covid-19 duty.[39] FDI investment in the infrastructure sector dropped to 5th place in the last quarter of 2020. FDI equity inflow received by the Indian infrastructure industries decreased from $4.51 billion in FY 2016 to approx. $2.04 billion in FY 2020.[40] While this isn't entirely the pandemic's consequence, it has been aggravated due to the instability and insecurity among the investors. The first wave and the aggregated second wave depicted the lacuna of adequate health infrastructure in India.

The pandemic led to various contracts to be renegotiated or consider different clauses, including but not limited to time extension, liability clause and force majeure clause. The most discussed clause was the force majeure clause. It doesn't guarantee recovery of costs but may entitle to an extension of time duration for completion of the project. A Delhi High Court judgment[41] decided that COVID-19 can be construed under the

[33] *Ban on International Passenger Flights Extended Till June 30, Travel to Continue Under Air Bubbles*, News18 (May 18, 2021) https://www.news18.com/news/auto/ban-on-international-passenger-flights-extended-till-june-30-travel-to-continue-under-air-bubbles-3786104.html

[34] Deepto Roy, *Covid-19: Why the power sector continues to struggle*, Economic Times (Apr. 22, 2020) https://energy.economictimes.indiatimes.com/energy-speak/covid-19-why-the-power-sector-continues-to-struggle/4197

[35] Risha Chitlagia, *Infra projects in Delhi stare at delays amid labour shortage*, Hindustan Times (May 10, 2021) https://www.hindustantimes.com/cities/others/infra-projects-in-delhi-stare-at-delays-amid-labour-shortage-101620587895801.html.

[36] HT Correspondent, *Lockdown in Gurugram: Infrastructure projects hit due to reduced workforce,* Hindustan Times (May 15, 2021) https://www.hindustantimes.com/cities/gurugram-news/infra-projects-hit-due-to-reduced-workforce-101620927172069.html.

[37] *Supra* note 27.

[38] Shantanu Nandan Sharma, Second Covid wave: Govt's decision to carry on with infra projects & its impact on thousands of workers (May 30, 2021) https://economictimes.indiatimes.com/news/economy/infrastructure/second-covid-wave-govts-decision-to-carry-on-with-infra-projects-its-impact-on-thousands-of-workers/articleshow/83067796.cms.

[39] Nishta Saluja, *Land acquisition rules for road projects take a hit*, Economic Times (May 27, 2020) https://economictimes.indiatimes.com/news/economy/infrastructure/land-acquisition-rules-for-road-projects-takes-a-hit/articleshow/76015591.cms?from=mdr.

[40] Statista, Amount of foreign direct investment (FDI) equity inflows for the infrastructure sector in India from financial year 2016 to 2020, https://wwwstatista.com/statistics/711619/india-fdi-equity-inflow-amount-for-metallurgical-industries/ (last visited May 5, 2021)

[41] *M/s Halliburton Offshore Services Inc. v. Vedanta Limited & Anr., 2020 SCC OnLine Del 542*

force majeure clause. The court also held that whether the breach of contract or its non-performance would be justified by the pandemic shall be decided on the basis of the facts of each case.

The Ministry of Finance, on February 19, 2020, via an office memorandum, stated that COVID-19 is a 'natural calamity' hence is covered under the force majeure.[42] The consideration of COVID-19 as a force majeure event in construction contracts was expressly declared by the Ministry of Road Transport and Highways via its circular issued in February 2020. This impliedly makes the force majeure clause in such contracts applicable even without serving notice. The decided timeline as per the contract would be suspended as it's not feasible to perform the contracts as per the decided terms till the pre-covid state is restored.[43] The Delhi High Court even suspended the compulsory requirement of serving notice to the other party.[44]

The abovementioned judgments cleared the grey clouds around the application of force majeure; however, it is of great concern that the burden on the judiciary will increase extensively post the pandemic.

Litigation or arbitration is preferably the last resort to resolve disputes, the most preferred way is to form the contracts exhaustively in nature, i.e., *inter alia,* they shall include a force majeure clause. While its formation, it is necessary that such clause shall entail the definition or the acts that come under the category of force majeure, including but not limited to an epidemic, pandemic, illness, an act of God and natural disaster; since the Indian Contract Act doesn't define the same. The next important step is to consider whether the right to reschedule timelines shall be given to the parties, should the right be with or without compensation, whether the right to terminate shall be given to either of the parties or both. The consideration of time is very crucial as all construction contracts are time-sensitive, and any breach can make it voidable on the decision of the non-defaulting party. The contract shall also include an indemnity clause. The contract shall define the extent of responsibilities and liability of every stakeholder involved. The parties can include a clause to appoint a pre-decided person to conduct delay analysis, this can help in avoidance of dispute to determine the liability. The parties can also include a mediation and negotiation clause to make it mandatory to opt either before approaching the court or invoking arbitration to resolve disputes.

The ideal process for the parties to a contract is to firstly check the clauses and ascertain the liability in terms of cash and otherwise, and later the parties can resort to an invocation of legal doctrine(s), for instance, the doctrine of frustration under Section 56 of the Indian Contract Act, 1872.

The government has taken various steps, including the release of COVID relief packages, and certain infrastructure sector-specific steps have also been taken. These specific measures include the announcement of setting up a platform for infrastructure debt financing via equity infusion in the NIIF. This is seen as a useful step as it could

[42] Department of Expenditure Procurement Policy Division, Ministry of Finance, Office Memorandum: Force Majeure Clause (FMC), (Issued on February 19, 2020).
[43] *MEP Infrastructure Developers Ltd. v. South Delhi Municipal Corporation and Ors.,* [W.P. (C) No. 2241/2020]
[44] ibid

help ease the erratic financing of infrastructure projects due to the pandemic. The government has instructed all its departments to ensure that the mechanism and infrastructure projects are closely monitored. To cater to the high unemployment rate due to the pandemic, *inter alia,* the government is relying on infrastructure and housing projects to increase employment opportunities. In addition, the government has also offered aid to various business categories, including the MSMEs. The FY22 Budget was seen as an unexpected major boost to the public infrastructure. However, the outcome and consequences of these measures can be effective only if implemented correctly, escaping red-tapeism, corruption and bureaucracy.

Suggestions

An obvious question is why should infrastructure financing be organized as a public-private partnership in the first place? Why involve the government at all? Why not develop such projects entirely as private enterprises? We have argued that creating large infrastructure projects generates a substantial amount of economic development. This economic development could be characterized as externalities. But there are two types of externalities, pecuniary and non-pecuniary. While pecuniary externalities manifest themselves in land price appreciation which both the government and private agents can capture and then perhaps transfer to the government, the non-pecuniary externalities cannot be easily monetized. Even though the non-pecuniary externalities cannot be monetized, the government may value these on behalf of its citizens and therefore may supplement the cost of running the project from its tax revenues. The protocol we have discussed lowers the cost of the project to the government by capturing the value of pecuniary externalities which may be substantial. It is evident that infrastructure development holds great potential to enhance job creation, poverty reduction, improve lifestyle and hence promotes the economic growth of the country. The authors have the following suggestions to boost infrastructure growth in India.

To ease the infrastructure financing with respect to the Indian bond and derivative market, the Government has taken the step of establishing the National Bank for Infrastructure Financing and Development (NBFID) as the principal Development Financial Institution (DFIs). However, the bill to establish NBFID is pending approval. The sole purpose of NBFID is to offer long-term financial support either by lending, investing or attracting investment for infrastructure projects. It'll also facilitate the development of loans, bond market and other derivatives for financing infrastructure growth. The government should establish Infrastructure Debt Funds (IDFs) and reduce withholding tax on the interest paid. The authors view it as a crucial step and believe that this might help in shaping the bond market and turn the picture of funding infrastructure projects in India into a picturesque one. The benefits of having a well-diversified bond and bank financing system can't be overemphasized. To list some, it can increase the tenor of debt, widen the funding capacity, enhance corporate empowerment and discipline, and reduce the maturity mismatches on the balance sheets of lenders and borrowers.

Another step could be to focus on capital markets for infrastructure financing as it can offer various advantages. Most importantly, it offers tradability and liquidity of equity capital and debt which opens doors for the investors or lenders with short-term horizons, as often the long holding tenure discourages such investors. Stock exchange provides a platform for transparent trading and also imparts liquidity to all forms of capital.

Budget FY21 announced certain tax exemptions to sovereign wealth funds. Similar investment incentives can be extended to various other investors. Such lucrative incentives not only decrease the cost of the project but also benefit lenders' investment amount, thus increasing their lending capacity.

To ease the process of land acquisition, it is imperative that state governments issue guidelines for the establishment and implementation of authorities to whom the appeal to Collectors' awards lie for land acquisition under the LARR Act. The most significant issue in the functioning of India's land acquisition process is the poor bureaucratic and administrative functioning. The process of land acquisition can be made better in efficiency and equity not only by bringing legal reforms but also bureaucratic and administrative reforms. The increase in procedural requirements for land acquisition under the 2013 Act enunciates requirements to improve executive compliance with the law. Only this can ascertain the betterment of translation of equities to the affected people, which is the primary intention of the amendments.
The major administrative reform is the building of state capacity, which is a prerequisite to implementing the amended process under the 2013 Act. Institutional structures shall be designed to ensure compliance with such law, and most importantly, a change in the mindset of the government and its departments to fully adopt and comply with the reforms inoculated in the 2013 Act and not subvert it like LARR Ordinance, rules and state amendments.[45] A quasi-judicial body can be formed whose function shall include the statutory right to resolve disputes between authorities and project developers or any dispute regarding infrastructure sectors.

To curb the issues related to clearances and approvals, a single-window clearance mechanism to obtain all the required NOCs can effectively and efficiently improve the process of seeking clearances. It can, in turn, reduce the time and cost overruns drastically. Upon CREDAI's recommendation, Tamil Nadu Government in 2020 launched a Single Window facilitation[46] mechanism to procure statutory pre-project clearances from different Tamil Nadu authorities from a single window. Similar helpful action shall be taken by other states to avoid procedural delays in a project's life cycle.

A transparent tracking system shall be formed to ensure fair disposal of clearance and approval mandate. The government shall have a legal regime providing performance-linked incentives and penalties. This step could motivate the project developers to avoid any delay on their end, either due to fear or incentive. Moreover, a Performance Review Unit should be formed and be authorized with the power to keep track of clearances and incentives by periodically extracting information from nodal agencies. The Government has set up a Project Monitoring Group (PMG) to keep track of frozen projects, fast-track approvals, resolve regulatory and policy gridlocks for projects with investment above ₹500 Crores. PMG has been successful in fulfilling its function as it has already resolved more than 200 projects referred to it, making around 30% of the value of all

[45] Supra note 18.
[46] Guidance Tamil Nadu, *Single Window,* https://investingintamilnadu.com/singlewindow (last visited May 7, 2021)

projects as per the World Bank's statement.[47] Similar initiatives shall be taken by the government. In order to curb the practice of arbitrarily blacklisting companies, an express law shall be made which shall lay down guidelines and the procedure to be followed by the government while blacklisting.

The involvement of private enterprises to form private-public partnerships has yielded exemplary results in the past in various infrastructure sectors, including aviation and telecommunication. India shall promote PPP and simultaneously beware of the consequences of the contracts to avoid any public opposition or agitation. Many public-private partnerships never come to fruition because private players are not convinced that the government will follow through on their commitments. Furthermore, by giving an equity-like stake to the government, the private players bidding for the project will be assured that after the funding is raised, the government will continue to have an incentive to ensure that development does indeed take place.

Concluding Thoughts

Infrastructure development is the key to India's improved success, growth and competitiveness. Even if financial constraints are met, it is expected that the timely execution of infrastructure projects will remain the biggest challenge. Another challenge that needs to be catered to is the access of citizens to the facilities offered via the projects, for instance, the power sector has shown certain improvement over the years, however, the power distribution still remains an exorbitant challenge. The Indian Government in the parliament 2021 announced its plan to invest ₹111 lakh crores (US$1.6 trillion) in India's infrastructure growth in the next five years.[48] This step was well accepted by the sector as India, nearly a $2.6 trillion economy, witnessed its first recession due to the social and economic distress caused by the pandemic. The current government's vision and mission of infrastructure development by borrowing and lending in the short run and simultaneously by disinvestment of public assets and privatization, in the long run, has both its pros and high-risk factors. However, it would be interesting to note the outcome or consequences of these measures. Lastly, it is an axiomatic observation that a weak infrastructure can create impediments in a country's manufacturing and other sectors' competitiveness.

[47] Project Management Institute, *Revamping Project Management: Assessment of infrastructure projects and corrective recommendations for performance improvement*, June 2019 pg. 5 (2019)
[48] Economic Times CFO, *Govt panel projects Rs 111-Trillion infra investments next five years,* ETCFO (Apr 30, 2020) https://cfo.economictimes.indiatimes.com/news/govt-panel-projects-rs-111-trillion-infra-investments-next-five-years/75470775 (last visited May 15, 2021)