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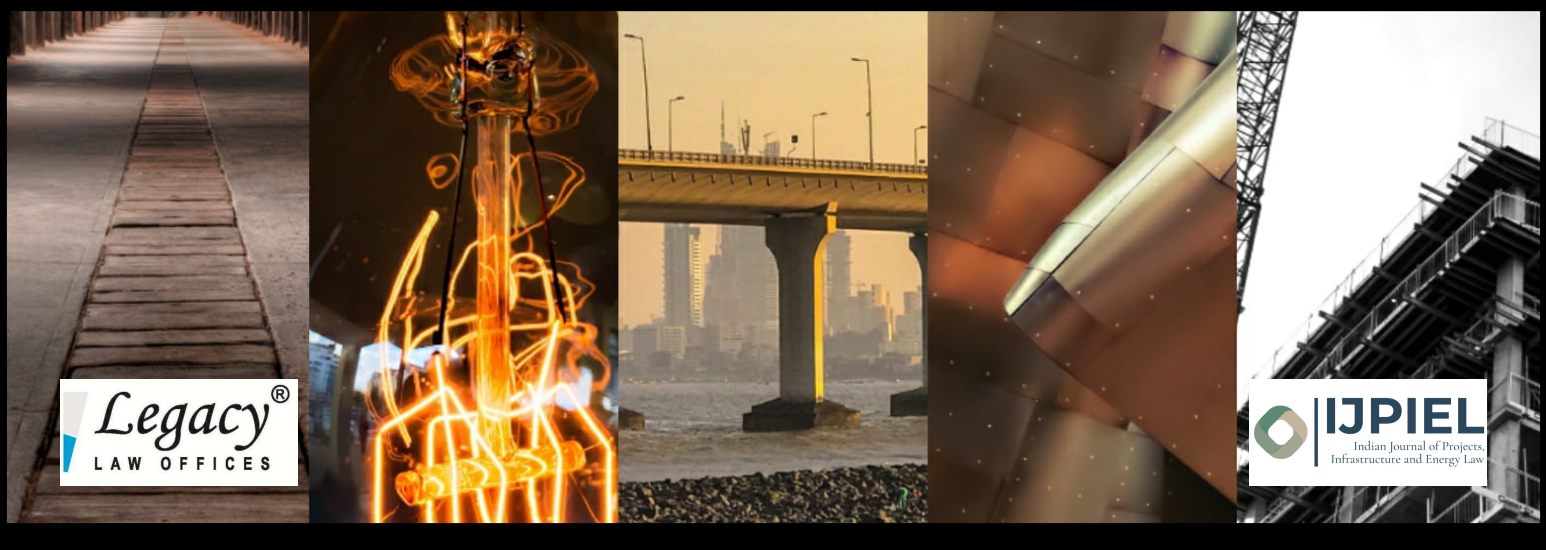

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FOREWORD

It delights me to know that the Indian Journal of Projects, Infrastructure and Energy Law (IJPIEL) is coming out with its 1st Issue of Volume 1 of the "Indian Journal of Projects, Infrastructure and Energy Law". The issue comprises numerous meticulously written manuscripts from national and international students, academicians and practitioners relating to aspects of the Energy and Infrastructure domain.

The last decade has witnessed a widespread growth in the infrastructure and energy reforms across emerging economies through the establishment of nuanced regulatory regimes, procedures, institutions and contracts.

On the brink of Covid-19, countries worldwide have realised to establish a sustainable and resilient infrastructure development framework coupled with the need to explore alternative energy sources. This context is essentially crucial for a developing country like India. The Government of India has recognised the sector's potential by floating schemes and reforms in the existing laws. Thus, it becomes pertinent to understand the current developments in the PIE sector and recognise its performance predicament, prevailing challenges, institutional fragility, and regulatory legitimacy.

I believe that this exercise of publishing the Indian Journal of Projects, Infrastructure and Energy Law would assist in appreciating the magnitude of this industry, thereby enabling in providing durable solutions. I am confident that this publication would go a long way in enlightening the individuals in the development of Projects, Energy and Infrastructure Law.

I extend my commendation to the Managing Editor, Naman Anand, the respective Board of Advisors, and the Editorial Board for their laudable efforts and wish them success for this publication.

Heather Allansdottir

Dr. Heather Katharine Allansdottir

ABOUT US

The Indian Journal of Projects, Infrastructure, and Energy Law (IJPIEL) is a student-run Bi-Annual Law Journal, Blog and Podcast. It was founded in July 2020 by a group of students from Universities across the nation, led by its founder, Naman Anand.

The journal aims to focus upon the niche area of Projects, Infrastructure and Energy Laws (PIE). In the post pandemic scenario, it goes without saying that the focus of global markets will be to create Sustainable & Resilient Infrastructure (SDG 9) and Alternative Sources of Energy (SDG 7). This is particularly important for India, which is slated to be one of the world's fastest growing economies. However, the same is not possible without achieving SDG 17- Peace & Strong Institutions of Justice. The youth of today shall be the future of tomorrow, and it is saddening to see that even the crème-de-la-crème of law schools in India are not focusing upon this particular area of law. Crucial terms such as Public-Private Partnerships (PPPs) and Procurement (and the different steps and documents involved in the same) remain unknown to law students throughout the course of their studies. It is, but natural that journals and student academia have not focused upon this area of law. This is where IJPIEL steps in.

We wish to create an academic culture where people develop an interest in this subject and hopefully pursue it as a career. Although our primary focus shall remain on Articles and Blogs pertaining to India, the Journal prides itself on its global outlook and its diverse Board of Advisors.

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Milking the (C)ash Cow: A Searing Critique of India's U-Turn on Clean Air

Dr. Heather Katherine Allansdottir[*] and Mr. Naman Anand[**]

ABSTRACT

In January 2020, India's Federal Government passed a highly controversial Ordinance and subsequently amended the Coal Mines (Special Provisions) Act, 2015. The Act has further pushed the Modi Government's efforts to privatise Coal & Lignite in India and has been referred to by News Media as a 'catalyst' in the dawn of an Atmanirbhar Bharat (Self-Reliant India) – the world's 5th highest Coal & Lignite producing nation.

Corporate entities may own any number of coal or lignite blocks without any prior experience in handling them. Interestingly, there is no need to specify any end-use either. Most importantly, the Government has waived the requirement to utilise 'washed' coal (introduced in 1997) and the requirement to reduce Particulate Emission norms by 40%, terming them as an 'unnecessary burden'.

The present paper seeks to present a brief analysis of the suicidal ramifications of such a decision on India's commitments towards International Labour Law and International Environmental Law. It analyses its impact on India's image as a 'responsible state' by analysing its pre-existing domestic legislation (particularly in areas such as Competition Law), which are grossly inadequate at upholding International best practices and treaty obligations.

Keywords: International Environmental Law, Public International Law, Coal, Clean Air

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Why is Coal Washing Important?

Before we commence with the legalese – let us delve a little bit into elementary science.

Coal, as a mineral, is an intricate potpourri of as many as 72 of the 96 materials on the Periodic Table[1], with most of them possessing vastly different physical properties. Coal contains numerous pieces of rocks, sand, and other elements. Among them is fly ash. Analysts predict that India's coal reserves contain anywhere between 30-50% of Fly Ash.[2] Such a high amount of fly ash is hazardous as it consists of numerous materials which, if found to be a high concentration amongst inhaled particles, can cause serious health problems[3]– with Coal Mineworkers and the local populace living in the vicinity of the mine the most vulnerable[4]. Arsenic (Cancer)[5] and Cadmium (Hypertension)[6] are good examples of the same. Thus, coal must be cleaned and subsequently go through a detailed pollution control process before the sale.

Lastly, and most importantly, the process of coal washing would also result in the provisioning of coking coal, which is essential for India's steel sector[7], the world's 2nd largest crude steel producer[8].

Coal Washeries: A Historic Outlook at the Pernicious Precipices of Indian Public Administration

Upon the founding of India's Constitution, Entry 23 of List II in Schedule 7 of the Constitution of India, 1950 ('**Constitution**'), empowers States in the Union to enact laws

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[1] Stanley P. Schweinfurth, *Coal- A Complex Natural Resource*, USGS (https://pubs.usgs.gov/circ/c1143/html/text.html#:~:text=Coal%20may%20contain%20as%20many,elements%20of%20the%20periodic%20table.&text=The%20most%20common%20minerals%20in,iron%2C%20sulfur%2C%20and%20calcium. (Last accessed at 12:13 AM IST on 16 Dec 2020)

[2] Craig D. Zamuda & Mark A. Sharpe, *A Case for the Enhanced Use of Clean Coal in India: An Essential Step Towards Energy Security and Environmental Protection*, presented at the WORKSHOP ON COAL BENEFICATION AND UTILISATION OF REJECTS (Ranchi, India on 22-24 Aug, 2007), pg. I (Last accessed at https://fossil.energy.gov/international/Publications/Coal_Beneficiation_Workshop/coal_beneficiation_paper_zamuda.pdf at 01:06 AM IST on 16 Dec 2020); also see Ankur Upadhyay & Manish Kamal, *Characterization and Utilization of Fly Ash*, BTech (Mining Engineering) Thesis, DEPARTMENT OF MINING ENGINEERING, NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA, pg iii (Last accessed at https://core.ac.uk/download/pdf/53188891.pdf at 01:11 AM IST on 16 Dec 2020)

[3] Robert B. Finkelman, *Health Impacts of Coal: Facts and Fallacies,* Ambio 36(1), 105

[4] Robert B. Finkelman, W. Orem, V. Castranova, C.A. Tatu, H.E. Belkin, B. Zheng, H.E. Lerch, S.V. Maharaj & A.L. Bates, *Health Impacts of Coal and Coal Use: Possible Solutions*, Int J. Coal Geol. 50, 425-443

[5] Agency for Toxic Substances & Disease Registry, *What are the Routes for Exposure for Arsenic?*, CDC.GOV (last accessed at https://www.atsdr.cdc.gov/csem/csem.asp?csem=1&po=6 at 01:19 AM IST on 16 Dec 2020)

[6] Id

[7] Patrick, J. (1974), The Coking of Coal, Science Progress (1933-), 61(243), 375-399 (Retrieved 19 Dec 2020, from http://www.jstor.org/stable/43420254)

[8] Ministry of Steel (Govt. of India), *India Becomes Second Largest Producer of Crude Steel*, https://pib.gov.in/PressReleasePage.aspx?PRID=1602023

regarding mines and mineral development. However, we must note that Entry 23 is subject to Entry 54 of List 1- in terms of which the Central Government is empowered to legislate in respect of mines and minerals. Generally, legislative powers of States defer to those of the Central Government in the event of a conflict.

Section 4 of the Mines & Minerals Act provides that all mining operations shall be under a license. Under the Mineral Concession Rules of 1960 ('**Rules**'), framed in exercise of powers under Section 13 of the Mines & Minerals Act, an applicant would first make an application to the relevant State Government. After that, the applicant must submit the plan to the Central Government. Once approved, the applicant was entitled to procure a license from the State Government. The Mines & Minerals Act and the Rules provide for the grant of license for operating in respect of mines and minerals stated under the Mines & Minerals Act.

In 1973, the Union Government, led by its Leftist policies, nationalised the Mining Sector via the passage of the Coal Mines Act in order to *"reorganise and reconstruct coal mines and ensure coordinated and scientific development and utilisation of coal, for the common good of the people of India"*[9]. Section 5(1) of the legislation was particularly noteworthy as it empowers the Government of India to vest legal ownership and all the following rights and duties arising after that of an owner with a coal mine to a Public Sector Undertaking (such as Coal India or Bharat Coking Coal Ltd). Section 1A, inserted by an amendment in 1976[10], empowered India's Government to *"take under its control the regulation and development of coal mines"*.

Although coal washing is essential for the growth of Micro, Small and Medium Enterprises (MSMEs), it is a glaring example of the failure of public administration in India. When the Indira Gandhi-led Government passed the legislation mentioned above in 1973, it did not have adequate provisions for the setting up and tendering large-scale coal washeries.[11] Sadly, that has remained a problem to date[12] and has gradually led to the sapping of India's coal supply – leading some analysts even to argue that the Government has vastly overestimated India's coal supply[13]. Ever since then, coal has been at the forefront of Indian politics on numerous occasions.

The 1993 Coal Amendment and Subsequent Regulations (1993 & 1998)

The first of the two most notable incidents occurred in 1993 when the legislation mentioned above underwent an amendment to allow corporations reporting 'Coal-Washing' as their end-use activity. The amendment created a furore in Parliament with politicians such as Rita

[9] The Coal Mines Nationalization Act (India), 1973
[10] Ins. by Act 67 of 1976, s. 2 (w.e.f. 29-4-1976)
[11] R. Kumar, *Nationalisation by Default: The Case of Coal in India*, Economic and Political Weekly, 16(17), 757-768 (Retrieved 19 Dec 2020, from http://www.jstor.org/stable/4369752)
[12] Shreya Jai, *Washery Tenders Delayed, Clean Coal Plan in Suit: Here are the Details*, BUSINESS STANDARD. (19 Aug 2019)
[13] RK Batra and SK Chand, *India's Coal Reserves are Vastly Overstated*, TERI POLICY REPORT (March 2020) (Last accessed at https://www.teriin.org/sites/default/files/2017-12/TERI_PolicyBrief_Coal_March11.pdf)

Verma (a member of the then principal Opposition – Bhartiya Janata Party from Dhanbad, who then held the charge of the same ministry from 1996-1999) leading from the front.[14] The furore in Parliament led to the levelling of several allegations of corruption against senior members of the then-Congress Government, including the then-Prime Minister PV Narasimha Rao, who became India's second Prime Minister to face serious criminal charges; after losing power in the 1996 general election.[15] A period of political instability followed, with three governments falling in quick succession between 1996 and 1999. However, one salient General Service Regulation (GSR), which dealt with the safe disposal of ash emanating out of Coal Washeries, was released in 1998.[16]

Manohar Lal Sharma v. The Principal Secretary & Ors.: The 'Coal-Gate' Scam Case (2014)

Facts of the Case

In 2014, eminent advocate Manohar Lal Sharma and Common Cause, a Non-Governmental Governmental Organisation (NGO), filed a Writ of Quo-Warranto under Article 32 of the Constitution of India in the interest of the public at large – challenging the allocation of 216 Coal Block licenses that the Government of India allocated for allowing mining activities in 7 different states between 1993-1996 and 2004-2014. There were four principal grounds on which the decision as mentioned above was challenged before the Supreme Court[17], after placing reliance on a 2012 report by the Comptroller and Auditor General (CAG) of India, which brought the scam into the light[18], which were:

i. The Government had not abided by the procedures as were mandated by the Mines & Minerals Act
ii. The Government had violated Section 3(3)(iii)
iii. The screening committee granted licenses to ineligible corporate entities throughout 36meetings.

[14] https://parliamentofindia.nic.in/ls/lsdeb/ls10/ses6/1719049301.htm
[15] AP Dow-Jones News Service, *Rao Arrested, Released on Corruption Charges*, THE WALL STREET JOURNAL (Oct 10, 1996)
[16] Ministry of Environment and Forests (Government of India), *Notification 763 (E)* (14 Sept 1999), THE GAZETTE OF INDIA – EXTRAORDINARY (Last accessed at http://ecobrick.in/resource_data/KBAS100031.pdf at 4:05 PM IST on 29 Dec 2020)
[17] M.S. Ananth & Pratibha Jain, *Coal Allocations Cancelled!* REGULATORY HOTLINE – NISHITH DESAI ASSOCIATES (16 Oct 2014), (Last accessed at http://www.nishithdesai.com/information/research-and-articles/nda-hotline/nda-hotline-single-view/newsid/2609/html/1.html?no_cache=1 at 4:42 PM on 30 Dec 2020)
[18] Moinak Mitra, *CAG Vinod Rai: An accountant who's calling the Government to account*, ECONOMIC TIMES (18 Aug 2012) (Last accessed at https://economictimes.indiatimes.com/news/politics-and-nation/cag-vinod-rai-an-accountant-whos-calling-government-to-account/articleshow/15540142.cms at 4:37 PM IST on 29 Dec 2020)

Contentions Presented by the Union of India

The Union of India, represented by the Attorney General, presented two significant contentions in its petition, which were as follows:

1. The principle of *precedence* laid down in the Constitution of India inspired from the Constitution of Australia, which divides items under the Union, State and Concurrent lists respectively; states that in cases where an item falls under the Union list, the decision of the Government of India shall take precedence over the states.
2. Section 1A and Section 3(3) of the Mines Act, 1952, which lay down the powers mentioned above, are in exclusion to those defined under the Mineral Concession Rules and are in addition to Article 73 of the Constitution of India.
3. The process followed by the Screening Committee, which included the scrutinization and grading of applications, was within the ambit of numerous legislative instruments and that due process had indeed taken place.

The Petitioners then submitted their rebuttal, based on two grounds:

(i) Section 3(3)(iii) was restrictive and lucid, in the sense that it enumerated which companies could operate coal mines clearly and concisely.
(ii) Further, neither the Coal Mines Act nor the Mines & Minerals Act empowered the Central Government to make allocations as made by the Screening Committee and that neither legislation provided for the arbitrary allocation procedure followed by the Screening Committee.

Quite interestingly, this was one of those rare cases that took place before the Supreme Court after the dawn of the 21st Century where the State Governments applied for the support of the petition by stating that the Government of India's process was contrarian to natural justice. They further argued that this was antithetical to the principle of healthy Centre-State relationships as it did not allow any recourse for appeal or consultation regarding the decisions made by the Government of India regarding Coal allocations.

Supreme Court's Decision

The Division Bench of the Supreme Court, led by Hon'ble (then) Chief Justice of India RM Lodha, concluded that neither of the two cardinal legislative instruments, namely, the Mines & Minerals Act & the Coal Mines Act; possessed any provisions which gave the Government of India a monopoly over all decisions related to the allocation of coal blocks. The Court also went on to note that although the provisions of the Act as mentioned earlier are well within the Constitution, how the Government of India had construed them in order to sit on the high horse of power was *ultra vires* the Constitution and was impermissible under the Doctrine of Colourable Legislation.

The Doctrine of Colourable Legislation: A Brief

The Doctrine traces its origin from the Latin maxim *"Quando aliquid prohibetur ex directo, prohibetur et per obliquum"*, which means "you cannot do indirectly, what you cannot do

directly" and emphasises the importance of Separation of Powers.[19] The principle finds a notable mention in the speech of Alladi Krishnaswamy Iyer in the Constituent Assembly Debates of India[20]:

"*It is an accepted principle of Constitutional Law that when a Legislature, be it the Parliament at the Centre or a Provincial Legislature, is invested with a power to pass a law in regard to a particular subject matter under the provisions of the Constitution, it is not for the Court to sit in judgment over the Act of the Legislature…Of course, if the legislature is a colourable device, a contrivance to outstep the limits of the legislative power or to use the language of private law, is a fraudulent exercise of the power, the Court may pronounce the legislation to be invalid or ultra-vires*".

The Supreme Court of India has upheld the legitimacy of the principle in a host of cases[21], the earliest of which was *KC Gajapati Narayan Deo v. State of Orissa*[22], where the CJ Patanjali Sastri noted that a contravention of the rule was a *'fraud on the constitution'*[23].

The Supreme Court's Decision (continued)

The Court took note of the numerous intervention applications filed by a host of State Governments and observed that the Central Government's sheer defenestration of the requirement of consulting State Governments regarding all matters concerning the allocation of coal blocks was illegal and led to the denudation of Centre-State relations.

The bench categorically stated that neither did Section 1A nor Section 3 of the Coal Mines Act empowered India's Government to commit such a dastardly omission by reducing the State Government's role to a mere rubber stamp. Even the amended version of Section 3 did not permit the same as it would determine how the Mines and Minerals Act, and not the Coal Mines Act, would be applied to the present situation and that the Government of India had issued no rules or notifications specifically to allocate Coal Blocks.

The Court, quite interestingly, chose to remain silent on the arguments raised by the Attorney General of India as to whether Coal Block auctions should have been allowed in the first

[19] Venkatanarayanan S., *Article 370: What the Supreme Court Will Have to Consider While Examining the Centre's Move*, THE WIRE (10 Oct 2019) (Last accessed at https://thewire.in/law/supreme-court-article-370-doctrine-of-colourable-legislation at 6:35 PM IST on 20 Jan 2021); also see Anchal Challani, *The Doctrine of Colourable Legislation: Indian Constitution*, JUS DICERE (17 Jul 2020) (Last accessed at https://www.jusdicere.in/the-doctrine-of-colorable-legislation-indian-constitution/ at 1:32 AM IST on 18 Jan 2021)

[20] Government of India, *Constituent Assembly Debates*, Vol 9, Document 138, Paragraph 53 (Freely accessible at https://www.constitutionofindia.net/constitution_assembly_debates/volume/9/1949-09-12?paragraph_number=53#9.138.53)

[21] See Ashok Kumar v. Union of India, 1991 SCC 3 498; also see State of Kerala v. PUCL, 2009 8 SCC 46; Dharma Dutt v. Union of India, 2004 1 SCC 712; State of Bihar v. Maharajadhiraja Sir Kameshwar Singh, 1952 1 SCR 889; Kunnathat Thattuni Moopil Nair v. State of Kerala, 1961 AIR 552; M.R. Balaji v. State of Mysore, 1963 AIR 649; State Transportation Officer (STO) v. Ajit Mills Ltd, 1977 4 SCC 98; Gullapalli Nageshwar Rao v. State Road Transport Corporation (SRTC), AIR 1959 SC 308

[22] KC Gajapati Narayan Deo v. State of Orissa, 1953 AIR 375

[23] See Challani, *Supra* 21

place or not – quoting a cardinal American Case[24] and terming it as a matter of 'the *unruly horse* called public policy', and *prima facie*, out of the jurisdiction of the judiciary. Instead, it elected to determine whether the process of auctioning the coal blocks was perverse to the Right of Equality[25] and Natural Justice; and concluded that it was so. It then reiterated its decision in the infamous 2G Spectrum Scam Case[26], where it held that any auctions held in a manner perverse to natural law and public policy are void ab initio.

Concluding Orders

After entertaining numerous applications from parties that sought a hearing because they would be adversely affected by any orders passed in the matter, the Supreme Court cancelled 212 out of the 216 coal block allocations and gave the coal block allottees and the Government of India and Coal India Limited 6 months to adjust to the orders passed by the Court. It scathingly observed that the nation's natural resources could not be dealt with in a manner as if they were the property of an 'exclusive club of individuals and not of the people of India, at large.

Lastly, and most importantly, it ordered that all the allottees with cancelled allocations pay an additional levy of 295 INR per metric ton of coal mined, although the overall environmental impact or the proposed cost of mining was unquantifiable. Lastly, it ordered a CBI inquiry into allocating 12 specific coal blocks, as identified in a sealed cover report by India's Attorney General. The details of the coal blocks that were an investigation took place have never been made public.

Doing Business in India – High Risk, High Reward: A Brief Analysis of the Manohar Lal Sharma Judgement, 6 Years On

Six years on from the judgment, India's environment is already one that has sent mixed signals to investors in light of the Government's contradictory sloganeering and advertising. Prime Minister Narendra Modi's ultra-nationalist Bharatiya Janata Party-led government has raised three interesting and contradictory slogans – 'Invest in India', 'Make in India' and 'Atmanirbhar Bharat (Self-Reliant India)'. The initiatives have received criticism for their 'policy casualness' and for their overlapping mandates, with leading Indian scholars declaring that the initiatives were a result of excessive appeasement and equivocation, and thus, "destined to fail" as "*swadeshi* (domestic) products cannot be made successfully with foreign capital".[27]

The *Manohar Lal* judgement's clarion call to adhere to judicial 'due process' seems to have gone sadly unanswered. Even today, companies contracting with the Government, funnily

[24] Richardson v. Mellish (1824), 2 Bing 229 at 252; also see John Shand, *Unblinkering the Unruly Horse: Public Policy in the Law of Contract*, The Cambridge L. J. 30(1) 1972(A), 144-167
[25] The Constitution of India, Article 14
[26] Dr Subramaniam Swamy v A Raja, 2012 9 SCC 257
[27] M. Suresh Babu, *Why 'Make In India' has failed*, THE HINDU (20 Jan 2020) (Last accessed at https://www.thehindu.com/opinion/op-ed/why-make-in-india-has-failed/article30601269.ece at 12:13 AM IST on 21 Jan 2020)

so, need to be sure that the Government has the power to enter into them and must be ready to defend their contract against any so-called 'public interest litigation. The rise of such motivated Public Interest Litigation processes is particularly shocking for India at a time where a former President of the Supreme Court of India's Bar Association (SCBA) publicly agreed that 'public interest litigation is not necessarily in 'public interest' all the time.[28]

It was also interesting to see how the Court did not pay heed to the laches' principle and cancelled decisions that dated back to 1993. The additional levy of 295 INR per metric ton without any justifiable manner to quantify the same came as a kick in the teeth for shareholders in companies such as Jindal Steel and Power Ltd (JSPL) and Jaiprakash Ventures Ltd and gave a short-term monopoly to state-owned Coal India Limited (CIL).[29]

As rightly noted by M. Ananth:
"While the rewards from doing business with Government of India may be high, the risks appear to be even higher".[30]

Against All Odds: The Peculiar Growth Story of the Adani Group

On the other hand, the BJP's magic wand seems to have worked for Adani Enterprises- in particular, Adani Power and Adani Green Energy, which are both publicly traded on the National Stock Exchange (NSE) of India (ADANIPOWER[31] and ADANIGREEN[32], respectively) and the Bombay Stock Exchange (BSE) (533096[33] and 541450[34], respectively).

The Adani Group now claims to be the largest producer of Photovoltaic Energy globally[35] and operates more than five airports and numerous coal mines in PPP mode – despite possessing no prior experience of running them[36]. However, the Adani Group's journey has not been a seamless experience. The group has faced widespread flak across

[28] Debayan Roy, *9 out of 10 PILs filed in Supreme Court are Motivated: Dushyant Dave*, BAR AND BENCH (18 Jan 2021) (Last accessed at https://www.barandbench.com/interviews/9-out-of-10-pils-filed-in-supreme-court-are-motivated-dushyant-dave at 12:23 AM IST on 21 Jan 2021)
[29] Rahul Oberoi, *Breaking Into Pieces*, BUSINESS TODAY (Nov 2014 – Print Edition) (Last accessed at https://www.businesstoday.in/moneytoday/stocks/coal-sector-coal-blocks-supreme-court-tata-group-jspl/story/211765.html at 12:32 AM IST on 21 Jan 2021)
[30] *Supra* 19
[31] National Stock Exchange, Adani Power (Live Stock Quote), NSE, https://www1.nseindia.com/live_market/dynaContent/live_watch/get_quote/GetQuote.jsp?symbol=ADANIPOWER (Last accessed 6 Mar 2021)
[32] BSE: 533096
[33] BSE: 541450
[34] Bombay Stock Exchange, Adani Green Energy (Live Stock Quote), BOMBAY STOCK EXCHANGE https://www.bseindia.com/stock-share-price/adani-green-energy/adani-green-energy/541450/ (Last accessed 6 Mar 2021)
[35] Adani Green Energy Ltd, *Adani Ranked as the Largest Solar Power Generation Owner in the world* (1 Sept 2020) (Last accessed at https://www.adanigreenenergy.com/newsroom/media-releases/Adani-ranked-as-the-largest-solar-power-generation-owner-in-the-world at 12:39 AM IST on 21 Jan 2021)
[36] Stephanie Findlay and Hudson Lockett, *'Modi's Rockefeller': Gautam Adani and the Concentration of Power in India*, FINANCIAL TIMES (13 Nov 2020), https://www.ft.com/content/474706d6-1243-4f1e-b365-891d4c5d528b

Australia for its plans to operate the Carmichael Coal Mine[37]. Moreover, the Government of Kerala (after its previous Writ Petition before the Ernakulam High Court was dismissed[38]) and the Mangalore Airport Employees' Association have now moved the Supreme Court of India against the concession of the Trivandrum[39] and Mangalore Airports (2 of the six airports for which Adani won the bid), respectively.

However, critics attribute this to the Corporation's open support of the Modi-led BJP government, which dates back to the time that Modi was the Chief Minister of the State of Gujarat[40], with images of Modi boarding a Private Jet owned by the Adani Group stirring controversy in 2014[41]. Meanwhile, Adani's worth has risen by more than 25 billion USD as his Corporation was successful in bidding for numerous government tenders and built infrastructure projects across the country.[42]

The Competition Commission: A Silent Spectator

In the meantime, the Competition Commission of India (CCI) has remained eerily quiet about whether such actions would give rise to allegations of 'Bid Rigging' under Section 3(3) of the *Competition Act, 2002*, as per its definition in the Explanation section of the Act:

"For the purposes of this sub-section, "bid-rigging" means any agreement, between enterprises or persons referred to in sub-section (3) engaged in identical or similar production or trading of goods or provision of services, which has the effect of eliminating or reducing competition for bids or adversely affecting or manipulating the process for bidding"[43].

It is interesting to note that although Section 19 of the Act confers power on the Commission to *"inquire into any alleged contravention of the provisions contained in subsection (1) of section 3 or sub-section (1) of section 4 either on its own motion or on— (a) 29[receipt of any information, in such manner and] accompanied by such fee as may be determined by regulations, from any person, consumer or their association or trade association; or (b) a reference made to it by the Central Government or a State Government or a statutory authority"*, such inquiries are initiated mainly at the behest of the ruling Government (mostly

[37] Rishi Iyengar, *Australia Gives Approval for Work to Begin on Controversial New Coal Mine*, CNN (13 Jun 2019), https://edition.cnn.com/2019/06/13/business/adani-mine-australia-approval/index.html (Last accessed 6 Mar 2021)
[38] KP Suresh & Anr v. Union of India, WP(C) No. 7961/2019 (Ernakulam High Court)
[39] KP Suresh & Anr. v. Union of India, SLP(C) No. 14515/2020 (Supreme Court of India); also see Livelaw News Network, *Supreme Court to Hear Kerala Govt Plea Against Thiruvananthpuram Airport Lease to Adani Group On 16 Mar*, https://enalsar.informaticsglobal.com:2278/top-stories/supreme-court-kerala-plea-thiruvananthapuram-airport-lease-adani-group-march-16-169910 (Last accessed 1 Mar 2021)
[40] *Supra* 38
[41] Ananya Sengupta, *Modi Flies into Brand Cloud*, THE TELEGRAPH (24 May 2014), https://www.telegraphindia.com/india/modi-flies-into-brand-cloud/cid/182148 (Last accessed 7 Mar 2021)
[42] *Supra* 38
[43] Competition Act, 2002 (India), Explanation to Section 3(3)

in poll-bound states in order to gain political capital) and are not independent.[44] It is also important to note that such man-handling of the CCI by the Government of India is in direct contravention of *The United Nations Set of Principles on Competition, 1980*[45]. On the other hand, the positions established by the 'Dyestuffs Case Test'[46] and the Supreme Court of India's controversial judgment in *Rajasthan Cylinders & Containers Ltd.*[47] do give the Government of India a reprieve of sorts.

The *Rajasthan Cylinders* Case: A Convoluted Legal Precedent

Facts

The Appellants entered into a contract to supply 105,000 gas cylinders (14.2 kg each, with SC valves[48]) to the Indian Oil Corporation Ltd (IOCL) - a listed[49] Public Sector Undertaking (PSU) for the 2010/2011 financial year. After numerous allegations of 'bid-rigging' arose,

the CCI used its powers u/S. 19 of the Competition Act, 2002 and duly appointed a Director- General to conduct an impartial investigation into the matter. Based on the Director's General's report, the CCI ruled that collusive bidding had taken place and proceeded to impose penalties on 45 companies engaged in Bid Rigging and imposed a penalty of 9% of the 'average turnover of each of the companies.[50] Forty-four of these companies proceeded forthwith to appeal the Order before the Competition Appellate Tribunal of India (COMPAT).

COMPAT upheld the CCI's decision on the ground that the alleged Companies had engaged in cartelisation as per the provisions of Sections 3(3)(a) & 3(3)(d)[51] and went on to enlist ten factual grounds that proved the same- including the fact that all the bidders had met in Mumbai a few days before submitting their bids[52]. However, the COMPAT provided partial relief to the defendants by relaxing the penalties previously imposed by the CCI based on

[44] NE Now News, *Cement 'Syndicate' Hikes Cement Price in Poll-Bound Assam* (25 Feb 2021), NORTHEAST NOW, https://nenow.in/north-east-news/assam/cement-syndicate-hikes-cement-price-in-poll-bound-assam.html

[45] The United Nations Set of Principles on Competition (1980), TD/RBP/CONF/10/Rev.2, https://unctad.org/system/files/official-document/tdrbpconf10r2.en.pdf (Last accessed 16 Mar 2021)

[46] F. A. Mann, The Dyestuffs Case in the Court of Justice of the European Communities, 22 INT'L & COMP. L.Q. 35 (1973).

[47] Rajasthan Cylinders & Containers Ltd. v. Union of India (2020), 16 SCC 615

[48] Id, Para 2.

[49] Bombay Stock Exchange, IOCL (Live Stock Quote), https://www.bseindia.com/stock-share-price/indian-oil-corporation-ltd/ioc/530965/ (Last accessed 8 Mar 2021)

[50] Niranjan Shankar Rao, *Relevant Turnover and its Basis Under the Competition Act*, INDIA CORP LAW BLOG (8 Oct 2017), https://indiacorplaw.in/2017/10/relevant-turnover-basis-competition-act.html#:~:text=For%20a%20company%20engaged%20in,could%20potentially%20worsen%20market%20behaviour. (Last accessed 16 Mar 2021)

[51] Aditya Bhattacharya & Oindrila De, Cartels and the Competition Commission, Econ. & Pol. W. 47(35) 14-17

[52] Shivani Chauhan, *Case Study: Rajasthan Cylinders and Containers Ltd v. Union of India* (3 Aug 2020), LEGAL WIRES, https://legal-wires.com/case-study/case-study-rajasthan-cylinders-and-containers-limited-v-union-of-india/ (Last accessed 16 Mar 2021)

the "relevant turnover" principle.[53] The companies then further appealed the COMPAT's Order to the Supreme Court of India.

The Supreme Court of India's Decision in the *Rajasthan Cylinders* Case

The Supreme Court allowed the appeal and set aside the decisions of the CCI and the COMPAT by taking a leaf out of its judgement in *Excel Crop Care Ltd. v. Competition Commission of India*[54], where it had laid down the scope and ambit of Section 3 of the Competition Act, 2002. The Court had previously noted that Section 3 prohibited anti-competitive agreements and thus fulfilled the primary purpose of Competition Law, i.e., not just eliminating anti-competitive practice which may adversely impact the market, but also to create a robust legal framework for the growth and development of healthy competition in the market.[55] However, it came with a caveat- the burden of proving the same should lie on the Petitioner, not on the defendant. The Court further relied on the principle of an 'oligopolistic market' presented in the Dyestuffs Case.[56] It went on to state that *"there has to be other credible and corroborative evidence to show that in an oligopoly the price reduction would swiftly attract the customers of the other two or three rivals, the effect on whom would be so devastating that they would have to react by matching the cut"*[57]. It said that in the present facts and circumstances, there were only three buyers (all 3 of which were

Public Sector Undertakings owned by the Government of India, namely – Bharat Petroleum, Indian Oil Corporation & Hindustan Petroleum) that were ready to purchase the LPG cylinders manufactured by the Petitioners. Out of the three buyers, Indian Oil had the largest market share at 48%, which led to creating an oligopolistic market.

Thus, the Court concluded its judgement by stating that price parallelism, in isolation, cannot be equated to bid-rigging and said that there was insufficient evidence to prove that bid-rigging had occurred in this case. It was interesting how the Court chose to castigate the CCI (an autonomous body, which can choose to summon corporate entities as and when it wants) for not summoning Indian Oil at an earlier stage, even though it had *"visible control over the entire tendering process"*[58].

'The (In)visible Hand' and the Dark Realities of a Fair Market: Everything That Went Wrong in *Rajasthan Cylinders* – A Concluding Note

Post the Supreme Court's decision in *Rajasthan Cylinders*, the Indian Media and numerous advocates hailed the decision as a milestone in the field of Indian Competition Law jurisprudence as it further strengthened the Supreme Court's decision in *Excel Crop Care*

[53] Supra 52
[54] Excel Crop Care Ltd v Competition Commission of India, 2017 8 SCC 47
[55] Id, Para 3
[56] Supra 47
[57] Supra 56, Para 99
[58] Supra 56, Para 105

Ltd. by emphasising the importance of market conditions in the assessment of Competition Law violations[59].

However, it is essential to acknowledge the presence of Paragraph 84 of the judgement, which acknowledges Paragraphs 44 and 45 of the Supreme Court's judgement in *Competition Commission of India v. Artistes & Technicians of West Bengal Film & Television & Ors.*[60] which states that:

"Even in the absence of proof of formal concluded agreement, when there are indicators that there was practical cooperation between the parties…that would amount to anti-competitive practices".

The decision had also stated that the Act should receive a chronological interpretation. The Court also stated that Section 2 of the Competition Act (which defines the term 'agreement') one must read Section 2 before Section 3 and that Courts must interpret the provisions in the broadest and most liberally possible when the Courts are looking to provide a judicial assessment of whether a practice was anti-competitive or not and that the CCI is the best judge for the same.[61]

Thus, the *Rajasthan Cylinders* Case decision constitutes bad law as it has presented conflicting opinions in its judgment and has chosen to acknowledge yet ignore the judicial position set in the *CCI v. WB Television* Case. The Supreme Court, which looked at the 'relevant turnover' principle and acknowledged that it did not exist within the ambit of the Act, still proceeded to conclude that imposing penalties based on the principle would be within the 'ethos' of the Act - thus muddying a well-set legislative instrument.[62]

All things said and done, the Court has not given value to well-set judicial and legislative precedents, neither has it paid heed to the fact that 'market conditions' are always tempered by money and political power. Thus, whether it is IPR, Capital Markets or Competition Law - the 'invisible hand' is not that invisible anymore.[63]

[59] Rahul Goel & Anu Monga, *Supreme Court Builds on Excel Crop Care Judgement to Examine Oligopsony in a Cartel Matter*, MONDAQ (16 Nov 2018), https://www.mondaq.com/india/antitrust-eu-competition-/755818/supreme-court-builds-on-excel-crop-care-judgment-to-examine-oligopsony-in-a-cartel-matter (Last accessed 16 Mar 2021)
[60] Competition Commission of India v. Artistes & Technicians of West Bengal Film & Television & Ors, 2017 5 SCC 17, Para 44-45
[61] Id, Para 13.
[62] Supra 52
[63] Naman Anand & Dikshi Arora, *The 'Dark' Reality of a 'Fair' Market: A Case Against Racist Trademarks and the Pernicious Precipices of Public Policy*, Baku State Uni L. Rev. 7(1)

The National Clean Air Programme, 2019 – 2 Years on A Harsh Lesson in Populist Policymaking

Background

The Government of India had launched an ambitious programme on 10 Jan 2019 to reduce the Particulate Matter pollution (PM 2.5 and PM 10[64]) present in 102 selected Indian cities that violated the National Ambient Air Quality standards (2009)[65], with 2017 as the base year[66], by 2023-2024. Each city was required to design its unique Air Quality Management plan and submit it to India's federal pollution regulating agency, the Central Pollution Control Board (CPCB). Such powers arose from the provisions of Section 16(2)(b) of the *Air (Prevention and Control of Pollution) Act, 1981,* which states that the CPCB shall *"plan and cause to be executed a nation-wide program for the prevention, control or abatement of air pollution"*[67]– who in turn directed the responsibility to monitor the efficacy of these plans to the respective State Pollution Control Boards (SPCBs). The programme document thus envisioned a cross-cutting, multi-sectoral partnership between the Centre and State Governments, emphasising a 3-Tier method of 'data collection, data archiving and action trigger systems'[68].

An Empty Suit

Although the scheme seems to an ambitious one, a thorough perusal of the Programme Document[69] shows us that the Programme has not received Federal backing under any law such as the *Environmental Protection Act, 1986*[70] or the *Air (Prevention and Control of Pollution) Act, 1981*[71]. Thus, the Programme was devoid of legal backing in a scenario when strict regulation and law enforcement should have been a priority for the Government of India. Consequently, there is no budgetary allocation for this Programme, which has led to much criticism from scholars and civil society at large.[72]

[64] Shikha Goyal, *What is PM 2.5 and PM 10 and how they affect health?* , JAGRAN JOSH, https://www.jagranjosh.com/general-knowledge/what-is-pm-25-and-pm10-and-how-they-affect-health-1528711006-1 (Last accessed 17 Feb 2021)
[65] Government of India, National Air Quality Standards (18 Nov 2009), B-29016/20/90/PCI-L, GAZETTE OF INDIA, https://cpcb.nic.in/uploads/National_Ambient_Air_Quality_Standards.pdf (last accessed 17 Feb 2021)
[66] The Hindu Net Desk, *All You Need to Know About the National Clean Air Programme* (11 Jan 2019), THE HINDU, https://www.thehindu.com/sci-tech/energy-and-environment/all-you-need-to-know-about-national-clean-air-programme/article25969287.ece (Last accessed 17 Feb 2021)
[67] Section 16(2)(b), Air (Prevention and Control of Pollution) Act, 1981
[68] Insights Editor, *National Clean Air Programme*, INSIGHT IAS, https://www.insightsonindia.com/2020/03/14/national-clean-air-programme-ncap-3/
[69] Government of India, *National Clean Air Programme (India)*, INDIA ENVIRONMENTAL PORTAL (10 Jan 2019), http://www.indiaenvironmentportal.org.in/files/file/NCAP.pdf (Last accessed 1 Mar 2021)
[70] Government of India, *The Environment Protection Act, 1986*, INDIA CODE, https://www.indiacode.nic.in/bitstream/123456789/13112/1/08_environment_protection_act_1986.pdf
[71] The Air (Prevention and Control of Pollution Act), 1981
[72] Niraj Bhatt, *A Critique of National Clean Air Programme*, THERMAL LAW WATCH, https://www.thermalwatch.org.in/resources/critique-national-clean-air-programme (Last accessed 1 Mar 2021)

A 2019 Greenpeace Report titled 'Airpocalypse-III'[73] made a few scathing observations concerning the Government's performance. It very rightly noted that the most severely impacted 'non-attainment cities' (i.e., cities that have not attained the adequate amount of air pollution controls and safety measures) would remain above the nationally prescribed 'maximum pollution levels'[74] even if the air pollution in each of those cities decreased by 30% year-on-year till the target year (2024)[75]. It also notes that there are 241 non-attainment cities, out of which the Government has shortlisted only 112- thus missing out on 139 cities below globally approved standards. The most notable omission was that of New Delhi- which has a notorious pollution record[76], which according to a Harvard University study[77], also led to a rise in COVID-19 cases in the capital. Instead, the city has received plaudits for its efforts in combatting air pollution due to its prior efforts under the Comprehensive Action Plan issued under the Environment Protection Act[78]. What is even more concerning is the Ministry of Power's recent office memorandum addressed to the Ministry of Environment, Forests and Climate Change to extend the deadline for 488 Coal power plant operators to comply with orders to reduce their Particulate Matter emissions by 40%.[79]

The *Benzene Convention* and India's *Directive Principles of State Policy*: Two Oft Overlooked Tools in the Fight for Clean Air in India

The Directive Principles of State Policy

The Directive Principles of State Policy were first introduced in the Government of India Act, 1935 and later incorporated in Chapter-IV of the Constitution of India Bill, 1950. The Principles were a result of the inspiration received from the *Prionsabail Stalarthoireac Hta Polasai Soisialta* (Article 45) of the Irish Constitution, which were, in turn, inspired by Pope Pius XI's *Quadregismo Anno*[80].

Similar to the Irish Constitution, religion or the Hindu idea of *Raja Dharma*[81], which is enunciated by ancient emperor Kautilya in the *Arthashastra* (given below), was vastly

[73] https://www.greenpeace.org/static/planet4-india-stateless/2019/08/8d46f0c0-airpocalypse-iii-report.pdf

[74] Id

[75] Id

[76] Vikas Pandey, *COVID-19 and Pollution: 'Delhi Staring at Coronavirus Disaster'*, BBC WORLD NEWS (20 Oct 2020), https://www.bbc.com/news/world-asia-india-54596245 (Last accessed 6 Mar 2021)

[77] X. Wu, R.C. Nethery, M.B. Sabath, D. Braun, & F. Dominici, *Air Pollution and COVID-19 Mortality in the United States: Strengths and Limitations of an Ecological Regression Analysis*, Science Advances 6(45) (4 Nov 2020), https://advances.sciencemag.org/content/6/45/eabd4049 (Last accessed 6 Mar 2021)

[78] *Supra* 49, pg 4

[79] Soundaram Ramanathan, *Power Ministry, Asks MOEF&CC to dilute emission norms for coal based power stations*, Down To Earth (4 Jan 2021)

[80] Arthur W. Bromage & Mary C. Bromage, *The Irish Constitution: A Discussion of its Theoretical Aspects*, The Review of Politics 2 (2) 145-166 (Apr 1940, Cambridge University Press), https://www.jstor.org/stable/1404106 (Last accessed 11 Feb 2021)

[81] Sundara Sami Reddy, *Fundamentalness of Fundamental Rights and Directive Principles in the Indian Constitution*, J. Indian Law Institute 22 (3) 404

influential in the addition of the DPSPs, leading some scholars such as Pritam Singh even to critique the Constitution and label it as an essentially 'Hindu-biased' document[82]:

"The King shall provide the orphan, the dying, the infirm, the afflicted and the helpless with maintenance; he shall also provide subsistence to helpless expectant mothers and also the children they give birth to".[83]

The principles are not justiciable based on the Sapru Committee's recommendations in 1945 to create two separate Rights – Justiciable and Non-Justiciable (which has also received criticism from notable scholars).[84] Although the principles are not justiciable according to Article 37 of the Constitution of India, they operate as fundamental indicators in the law-making of the nation, with legislators obliged to incorporate them to the maximum extent possible[85], as opposed to the former, which are purely for guidance – as seen in a catena of judgements by the Supreme Court of India[86].

Benzene Convention, 1971 (C-136, ILO)

Although India is not a party to the Aarhus Convention[87] or R-156 (ILO)[88]; the Benzene Convention (C-136)[89] may turn out to be an ideal route to affix liability for environmental damages arising out of dirty coal on the Government of India.

The Convention, whose primary purpose is to provide for *"protection from hazards arising from Benzene"*[90], was enacted by the ILO in 1971 and ratified by India on 11 Jun 1991[91]. The Convention has, quite surprisingly, been amiss from the broader academic discourse of

[82] Pritam Singh, *Hindu Bias in India's 'Secular' Constitution: Probing Flaws in the Instruments of Governance*, Third World Quarterly 26 (6) 909-926

[83] Supra 35, see footnote 31

[84] A.G. Noorani, *Centre-State Relations in India*, Verfassung und Recht in Ubersee/Law and Politics in Africa, Asia and Latin America 8 ¾ 319-329 (¾ Quartal 1975), http://www.jstor.org.rgnul.remotexs.in/stable/43108472 (Last accessed 12 Feb 2021)

[85] Madhavi Gopalakrishnan, *Contrasting the Directive Principles in the Indian and Irish Constitutions*, CONSTITUTION OF INDIA.NET (18 Jul 2020), https://www.constitutionofindia.net/blogs/contrasting_the_directive_principles_in_the_indian_and_irish_constitutions (Last accessed 11 Feb 2021)

[86] Narendra Madivalpa Kheni v. Manikrao Patil (Supreme Court of India), 1977 4 SCC 16; also see Revanasiddappa v Mallikarjun (Supreme Court of India), 2011 11 SCC 1

[87] Convention on Access to Information, Public Participation in Decision Making and Access to Environmental Matters (1998), https://unece.org/DAM/env/pp/documents/cep43e.pdf (Last accessed 8 Feb 2021)

[88] International Labor Organization, *Working Environment (Air Pollution, Noise and Vibration) Recommendation, 1977 (No. 156)*, https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:55:0::NO::P55_TYPE,P55_LANG,P55_DOCUMENT,P55_NODE:REC,en,R156,/Document (Last accessed 8 Feb 2021)

[89] International Labour Organization, *The Benzene Convention* (1971), https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C136 (Last accessed 8 Feb 2021)

[90] Supra 36, see Preamble

[91] International Labor Organization, *Ratifications of C-136 - Benzene Convention, 1971 (No. 136)*, https://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::NO:11300:P11300_INSTRUMENT_ID:312281 (Last accessed 8 Feb 2021)

International Law since its enactment – with just two publications centred on the Convention within 50 years.[92]

Article 1(b) of the Convention denotes that it shall also apply to 'products' where the Benzene (C6H6) content is more than 1%.[93] This interpretation can be altered on a 'temporary basis' by the 'competent authority' of the state party to the Convention.[94] Surprisingly enough, the Convention does not define the term 'product' and has not provided any specification of the 'temporary period' or the extent of the 'alteration' possible under Article 3(1). Neither does any other instrument of Public International law provide an answer, in clear terms, as to how the term 'product' may be defined. In such a case, we must place reliance on the domestic laws of India.

The relevant provision in the present circumstance is Section 2(33) of the *Consumer Protection Act, 2019*, which reads as follows:

"2. In this Act, unless the context otherwise requires-
(33) "product" means any article or goods or substance or raw material or any extended cycle of such product, which may be in gaseous, liquid, or solid-state possessing intrinsic

value which is capable of delivery either as wholly assembled or as a part and is produced for introduction to trade or commerce, but does not include human tissues, blood, blood products and organs".[95]

It is interesting to note the key phrase here – *"gaseous…. state possessing intrinsic value capable of delivery"*. Such a provision allows for Indian coal containing Benzene, even if the same exceeds 1% in a soluble form, which Indian coal has been scientifically tested and proven to contain[96], to fall within the definition of the term *product* under Indian law and consequently fall under the aegis of the Benzene Convention, 1971. One can bolster this argument by the fact that coal has been considered as a 'product' in liquid[97], gaseous[98] and solid[99] form by the National Consumer Disputes Redressal Commission (NCDRC) of India.

[92] Ilise L Feithans, *Law and Regulation of Benzene*, Environmental Health Perspectives 82, 299-307 (Jul 1989), https://www.jstor.org/stable/3430788 (Last accessed 8 Feb 2021); also see Christopher Sellers, *From Poison to Carcinogen: Towards a Global History of Concerns About Benzene*, Global Environment 7(1) - RCC Special Issue on Hazardous Substances: Perceptions, Regulations, Consequences 38-71 (2014), https://www.jstor.org/stable/43201593 (Last accessed 8 Feb 2021)
[93] Supra 36, see Article 1 (b)
[94] Supra 36, see Article 3(1)
[95] Section 2 (33), Consumer Protection Act, 2019 (India), http://egazette.nic.in/WriteReadData/2019/210422.pdf (Last accessed 8 February 2021)
[96] MK Ghose and SR Majee, *Characteristics of Air-Borne Dust Emitted by Open-Cast Mining at Jharia Coalfield*, Indian Journal of Chemical Technology 8, 422 (2001)
[97] The Oriental Insurance Co Ltd v. S. Gurmeet Singh, 2011 SCC Online NDCRC 811
[98] Bira Kishore Naik v. Coal India & Ors, 1986 3 SCC 386
[99] Mohindra Gas Enterprises v. Jagdish Powal & Ors, 1992 SCC Online NDCRC 10

However, it is pretty saddening to note that despite numerous references by the ILO (with the latest one taking place in 2015), the Indian Government has not clarified the measures taken to comply with the Convention.

Conclusion

The situation in India is precarious and one that demands affirmative action from the highest echelons of Government. All kinds of relaxations given to corporates concerning environmental norms, which violate or significantly deter India's efforts to fulfil the Sustainable Development Goals, must be rolled back with immediate effect. Another critical factor is that non-governmental organisations and human rights defenders report on India's efforts to comply with the SDGs, notably Amnesty International, which had to cease its India operations citing excessive 'interference' by the Government of India[100], be allowed to function freely. The NCAP must possess the legislative and financial backing in order to become a full-fledged national scheme.

In addition to the same, India must review its commitments towards the ILO and other International best practices and Treaty Obligations. The judiciary must seek to critically analyse the Government's policies and refrain from engaging in eulogising the Government[101] or joining the Parliament post-retirement (which also led to severe criticism

of the institution from numerous legal scholars)[102] in order to maintain a healthy 'Separation of Powers'. Although the transition towards clean air and green energy cannot take place overnight, the Government of India must take appropriate measures to do more than just 'lip service' in order to ensure that it makes anything in India apart from a mockery of the rights of the citizens it elected to power

[100] Manveena Suri and Swati Gupta, *Amnesty International Halts India Operations after 'freezing' of its Bank Account*, CNN (29 Sept 2020), https://edition.cnn.com/2020/09/29/india/india-amnesty-international-freeze-intl-hnk/index.html (Last accessed 17 Mar 2021)

[101] Press Trust of India, *Supreme Court Judge Describes Modi as 'Popular, Vibrant and Visionary Leader'*, THW WIRE (25 Feb 2021), https://thewire.in/law/supreme-court-judge-describes-modi-as-popular-vibrant-and-visionary-leader (Last accessed 17 Mar 2021)

[102] Rajeev Dhavan, *The Revolving Door for Ranjan Gogoi Does the Supreme Court No Credit*, THE WIRE (25 Mar 2020), https://thewire.in/law/the-revolving-door-for-ranjan-gogoi-does-the-supreme-court-and-parliament-no-credit (Last accessed 17 Mar 2021)

Problematizing 'Performance Contracting': An Onto-Epistemological Perspective

Mr. Earle Johnson[*]

ABSTRACT

This article seeks to, conceptually, broach the boundaries of normative doctrinal analysis by exploring the extant constructs of performance, drawing onto epistemological resources. As such, it aims to commence an engagement with alternative legal perspectives, such as socio-legal theory and practice, to open up new contracting approaches that could be resourceful in fragile-cum-complex infrastructure recovery and post-disaster contexts.

Key Words: Social Development Goals, Socio-Legal, Performance Contracting

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Introduction

It is argued that there is *social embeddedness*[1] within the development contexts, goals, and their concomitant governance. Consequently, social embeddedness, along with generally normative artifacts of performance[2] often perturbs *performance gaps*[3]. As such, it is proffered that development programs are exposed to commercial risks that arise from social embeddedness expressed – contractually - as performance gaps.

With over ninety-two percent of the Social Development Goals (SDGs) linked to infrastructure development[4] and the increasing use of *performance contracting*, this article seeks to animate a dialogic praxis in the mediation of competing expectation *performatives*[5]. It is contended removal of that this would aid a reduction in transaction costs, governance demands and mitigate legal risks.

Conclusively instead, the cultivation of innovative responses to the socially complex transformational challenges embedded in programs would be more conducive to supporting the objectives of the Social Development Goals (SDGs).

Context

Generally, programs and projects are instrumentalized through *temporary organizations* (comprising of secondary and tertiary agents) that carry out the day-to-day activities of contracts. At the same time, it is posited that *contract law* is ideally suited for *social-legal* perspectives and explorations.[6] Along with these concurring factors, my powerful management and consulting experience in the humanitarian and development sectors lends itself to an onto-epistemological perspective in dialoguing with the assumed merits of *socio-legal theory*. Arguably, any resulting claim is limited to the context of *lived experience,* which, incidentally, some commentators advocate is pertinent to contextual

[1] A Maurer, "*Social Embeddedness" Viewed from an Institutional Perspective, Revision of a Core Principle of New Economic Sociology with Special Regard to Max Weber,* 2012 Polish Sociological Review 180 p 475; and also, https://understandingsociety.blogspot.qa/2012/07/social-embeddedness.html (Accessed 17 October 2020).

[2] This paper draws on the view of 'performance' as a construct, is both a *behavior* and an *outcome*. See: S Sonnentag and M Frese, *Performance Concepts and Performance Theory*, 2005 Psychological Management of Individual Performance, p 1; this includes the assumption that to *perform* produces a *valued output/outcome,* see: D Elger, *Theory of Performance,* which also includes a measurable expectation "*to perform"* https://www.webpages.uidaho.edu/ele/scholars/Results/Workshops/Facilitators_Institute/Theory%20of%20Performance.pdf (Accessed 17 October 2020); also the extension of the concept to firm-level 'measures' in Operations Management. See: G Vastag, *The theory of Performance frontiers,* 2000 Journal of Operations Management 18 p 353. https://pdfs.semanticscholar.org/214c/dd2755dfa35eda66b59ec4095885c3f330d3.pdf (Accessed 15 October 2020).

[3] R Staughton and R Johnston, *Operational Performance gaps in business relationships,* 2005 International Journal of Operations & Production Management 25 (4) p 330.

[4] UNOPS, *Infrastructure for Peacebuilding*, (2020); https://content.unops.org/publications/Infrastructure_Peacebuilding_EN_Web.pdf (Accessed 17 October 2020).

[5] R Cotterrell, *Rethinking 'Embeddedness': Law, Economy, Community,* 2013 Journal of Law and Society 40 (1) p 49.

[6] L Mulcahy and S Wheeler, *Contract Law: Socio-Legal Account of the Lived World*, in Palgrave Macmillan Socio-Legal Studies book Series (2012).

policy praxis.[7] Therefore, the adduced insights and understandings inhere the potential of contributing to a *praxis of performance* while noting that, empirically, normative modes are limited by the *fragility-cum-complexity* of the local institutional contexts.[8]

With this in mind, this article locates *performance* in-between "the intention" and "the actual" versus simply, related measures of intention. In doing so, *performance* is (re)conceptualized as an 'observable phenomenon' that is articulated by - and through - the inter-animation of competing discourse of expectations during the implementation of program objectives. As such, the *conflicts* that often arise, framed here as *performance gaps*, can be theorized as the 'interpersonal conflicts' between actants and stakeholders. Relatedly Honneth theorized, *"…all interpersonal conflicts are the result of a struggle for recognition…"*[9]. This *'struggle for recognition'* or its correlate, *lack of recognition*, provides a valuable means to innovate normative artifacts of performance. That is, pierce the veil of agnotology (induced ignorance) to recognize the discursive dynamics of *expectation-performativity*[10]. In doing so, opportunities for the development of innovations in performance contracting can be realized.[11]

Consequently, I argue that removal of by employing *socio-legal* resources to engage the constructs of 'performance' and 'performativity' in *fragile-cum-complex* contexts - for *performance-based contracting* and *administrative governance* – could provide contractual stability through the cognizance of *performance elasticity* within agreed expectation variables to remediate the effects of performance- paradox.

In practice, 'performance' is an artefact as *measures* – which Henman asserts to be "mismeasures" of performance that, among other things, consequences social dissonance[12]. However, these *(mis)measures* populate contracting-for-performance practice and provide the basis for, or against which, payments are disbursed to *firms* and as *progress indicators*. Subsequently, also, these (mis)measures often vitiate the expected *SDG performance.* Consequently, *performance gaps* and legal risks arise.

Deconstructing 'Performance'

Arguably, contracting in fragile-cum-complex contexts should entail recognition removal of any of the discursive expectations embedded in the context. This blog seeks to - conceptually - extend a *post-normal science*[13] view to infrastructure contracting in

[7] Ritu, *Living with and responding to risk in the Uttarakhand Himalayas: A call for prioritizing lived experiences in research policy praxis,* (2020) International Journal of Disaster Risk Reduction.
[8] http://www.ihip.earth/which-problem-is-ihip-addressing/ (Accessed 7 August 2020).
[9] A Honneth, *The Struggle for Recognition: The Moral Grammar of Social Conflicts,* MIT Press (1996).
[10] Please see the empirical research on the performative of expectation: M. Rosengarten and M. Michael, *The performative function of expectations in translating treatment to prevention: The case of HIV pre-exposure prophylaxis, or PrEP,* 2009 Social Science & Medicine 69 (7) P 1049-1055.
[11] R Sumo, W van der Valk, G Duysters and A van Weele, *Using Performance-based contracts to foster innovation in outsourcing service*, 2016 Industrial Market Management http://www.arjanvanweele.com/42/records/86/Sumo.IMM.FINAL%20PAPER%20PUBLISHED%201-s2.0-S0019850116301067-main.pdf (Accessed 15 October 2020).
[12] Ibid p 606.
[13] Here I am employing the notion of *destabilized facts*. That is, engaging a dialogical approach to account for the recognition of extant and emergent uncertainties and competing expectation performatives. See for example: http://isecoeco.org/pdf/pstnormsc.pdf (Accessed 17 October 2020), and https://www.uu.nl/wetfilos/wetfil10/sprekers/Funtowicz_Ravetz_Futures_1993.pdf; Accessed 17 October 2020.

post-disaster recovery and humanitarian contexts where conditions of uncertainty abound. In these complex contexts, both 'blame avoidance and 'risk avoidance' are often actants that consequence commercial risks for programs. This is especially so when actors employ 'performance measurement' – as teleological mechanisms – which tends to veer away from the sustainability objectives (social and economic) in the local context[14] and, given the removal of such the evolving use of *performance-based contracts*, cultivating an alternative contracting lens is urgent– a *socio-legal* lens[15].

Initiating from the point of view of *performance* as a discursive construct, a dialogic space arises to negotiate and mediate expectations.[16] Further, employing a *socio-legal* framework to performance-based contracting to implement infrastructure programs offers alternative options to extant transaction-based models. Such an alternative approach is helpful in post-disaster recovery and humanitarian contexts where weak institutions and emergent complexities abound.[17] That is, a purposive mediation of the *performance-performative paradox*[18] can be realized in contextually ambiguous conditions.[19] A *de-risking* effect is thus adduced, which contributes to the discourse on managing commercial risk by focusing on the 'ecology of the inter-animations' embedded in contracting.[20]

Chynoweth (2008) questioned the normative term of 'methodology' in legal research removal of by positing that empirical analysis cum persuasive engagement with theoretical innovations hold a substantive place in legal praxis.[21] While Banakar and Travers (2005) assert that there are methodological opportunities for discussion with the legal research community that would animate innovative methods in *socio-legal* research praxis in its empirical studies of law.[22]

'Performance' Henman (2016) posits, inheres an implicit ontological construct of *measurement*[23]. As such, 'performance-measurement' induces a performative effect on 'performance'.[24] That is, what is likely to be measured is a *(re-)presentation* of performance. "Authentic performance" – as he characterizes it - remains elusive to performance measurement capture.[25] Public Management Scholar Christopher Hood (2007) argues that 'blame avoidance is the normative institutional tool to manage

[14] P Le Gales, *Performance measurement as a policy instruments*, 2016 Policy Studies 37 (6) p 508.
[15] D Schiff, *Socio-Legal Theory: Social Structure and Law*, 1976 The Modern Law Review 39(3) p 287.
[16] Ibid.
[17] C Hunter, *Integrating Social-Legal Studies into The Law Curriculum* Ed. Palgrave Macmillan (2012); and also, R Banakar and M Tavers, *Introduction to Theory and Method in Socio-Legal Research*, Eds Hart Publications (2005).
[18] D Eicher-Catt, *Non-custodial Mothering: A Cultural Paradox of competent Performance – Performative Competence*, 2004 The Journal of Contemporary Ethnography 33 (1) p 72.
[19] E Krahmann, *Legitimizing Private Actors in Global Governance: From Performance to Performativity*, (2017). https://www.ssoar.info/ssoar/bitstream/handle/document/55269/ssoar-politicsgovernance-2017-1-krahmann-Legitimizing_Private_Actors_in_Global.pdf?sequence=1 (Accessed 16 October 2020).
[20] R Scott, *A Relational Theory of Default Rules for Commercial Contracts*, 1990 The Journal of Legal Studies 19 (S2) p 597.
[21]P. Chynoweth, *Legal research in the built environment: a methodological framework* (2008) http://usir.salford.ac.uk/id/eprint/12467/1/legal_research.pdf; Accessed 12 October 2020. http://www.dphu.org/uploads/attachements/books/books_3805_0.pdf; Accessed 18 April 2018.
[22] R. Banakar and M. Travers, eds, *Theory and Method in Social-Legal Research* (2005).
[23] P Henman, *Techniques and paradoxes in performing performance*, 2016 Policy Studies 37 p 597.
[24] Ibid.
[25] Ibid.

political risk.[26] At the same time, Hood appears to animate 'performance' in a public institution as 'governance' - and deploys *transparency* as a *performative* of blame-avoidance.[27] *Prima facie,* both scholars (Henman and Hood) recognize the inherent *social embeddedness* in the construct of 'performance'.[28]

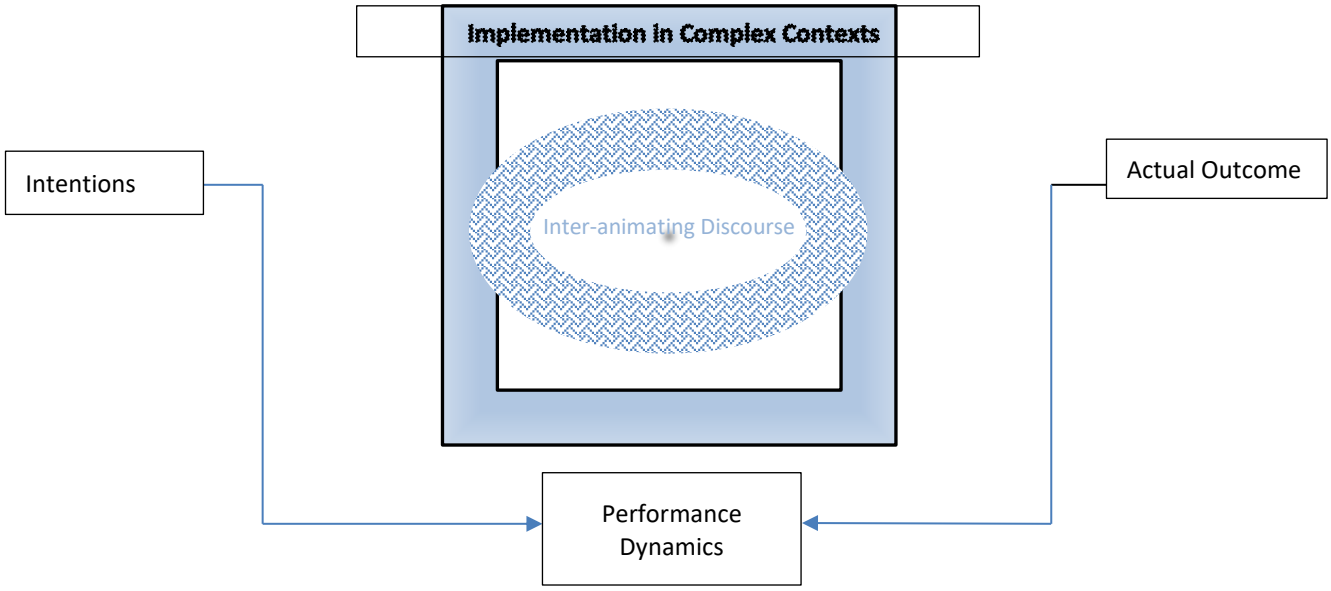
Reasonably, 'performance contracting' can be logically construed as a *social phenomenon*[29]. As such, the interdisciplinary nature of a *socio-legal* framework enables a legal praxis beyond doctrinal analysis to include contracting phenomenon as inter-animating social relationships.[30] Consequently, an interplay of theoretical and empirical resources can provide a discursive means for enact 'contextually-attuned Performance contracting'.

This onto-epistemological treatment of *performance* is supported by some International Financial Institutions (IFIs) in their suggestion that *de-risking* should be managed through dialogic engagements which include banks, regulators, policy actors and stakeholders to engender the desired effect of *inclusion* - versus exclusions by restrictions and exiting from existing relationships to achieve broader systematic regulatory-compliance performance.[31] As such, mere client-avoidance or restriction as a *de-risking* governance strategy in the financial sector is deemed unsupportive of the broader social objectives of SDGs.

Engaging Socio-Legal Resources

Ex-ante evaluations are often replete with the evaluations of *performance gaps*[32]. This, in general, is taken to convey that stakeholder *performance* expectations have not been *fully* met[33]. The 'measure' of these unmet expectations often lies between the *intentions* and the *actual outcomes* of the program or contract implementation. However, what is often ignored is the fluid, contextual realities along with competing polysemic (re)presentations of *performance* inter-animate during the implementation. This *inter-animation*, I argue, produces dynamic possibilities for unmet expectations.

[26] C Hood, *What happens when transparency meets blame-avoidance*? 2007 Public Management Review 9 (2) p 192.
[27] Ibid
[28] Supra 7
[29] See, for example, N. Richard's Doctoral Thesis *Performance Contracting, Measurement and Public Service Delivery in* Kenya (2016) http://erepository.uonbi.ac.ke/bitstream/handle/11295/97860/Ndubai%20Richard_Performance%20Contracting,%20Measurement%20and%20Public%20Service%20Delivery%20in%20Kenya.pdf?sequence=1&isAllowed=y(Accessed 23 October 2020); and, J. Dias and D. Elesh, *Structuring Performance: performance Contracts, Organizational Logics, and Leadership in Welfare-to-Work* Programs, (2012) Social Service Review (86) 1 p 143-168.
[30] R Banakar and M Travers, *Theory and Method in Socio-Legal Research,* Hart Publishing (2005).
[31] http://live.worldbank.org/financial-inclusion-not-exclusion-managing-derisking (Accessed 18 October 2020).
[32] For example, a conflation between evaluating for *compliance* or *performance*. See S. Smismans, *Policy Evaluation in the EU: The Challenges of Linking Ex Ante and Ex Post Appraisal* (2015) 6 European Journal of Risk Regulation 6.
[33] J. Anderson, S Lowe and P. Reckers, *Evaluation of audit decisions: Hindsight bias effects and the expectation gap* (1993) 14 Journal of Economic Psychology 4 p 711-737.



Dias and Elesh (2012) empirical study concluded that the dynamics of competing organizational logic have a material effect on the outcome of program/implementation performance.[34] That is, conceptually, what I have characterized as an *inter-animating discourse*. In other words, performance contracts can both *constrain* and *opportune* actual outcomes.[35]

Socio-Legal Theory encapsulates the potential to concomitantly engage both doctrinal and contextual variables towards optimal outcomes given, among other things, its empirical stance.[36] Consequently, as some commentators posit, *socio-legal approaches* bode well for the context of contract law.[37] This dialogic space – that is, *performance contracting* - will be explored in subsequent blogs through the discursive lens of socio-legal resources. As such, formulations of contract *de-risking* are likely to emerge.

Conclusion

The scope of this article is limited to a conceptual framework of *performance* and how *socio-legal* resources on the empiricism in and around contract law might influence constructs of *performance* - in a dialogic manner - during negotiations, contracting, implementation and disputes-mediation. As a resource, contextually appropriate approaches might then be engaged to adduce and enhance de-risking effects for infrastructure contracting in post-disaster and humanitarian contexts.

[34] Ibid 29.
[35] Ibid.
[36] C. Hunter, "Integrating Socio-Legal Studies into The Law Curriculum" (Edit) Palgrave Macmillan, (2012).
[37] Ibid.

The Justice Junction in the Covid-19, George Floyd and Energy Transition Era

Mr. Rukonge Sospeter Muhongo*

ABSTRACT

"If you are neutral in situations of injustice, you have chosen the side of the oppressor." We need to stand up for justice for all"- Archbishop Desmond Tutu

The murder of George Floyd has sparked a global outcry for justice by different marginalised communities. The communities' recognition as people having an inherent right to life, peace, and prosperity, is demised by a simple ruthless knee on the neck for eight minutes. This article makes a cross-analysis of climate change, the COVID-19 pandemic, and institutional racism, and their impact on justice within different communities, ranging from the indigenous people of the Amazon in Brazil to the Sengwer people of Kenya, the Khoi-Khoi of South Africa, and the African Americans of the United States of America. Furthermore, the article shows that injustice occurs due to an unequal relationship between parties, driven by the desire to serve their selfish interests at the expense of the aggregate benefit of the whole society. When this context is taken into the energy industry, it shows the unequal relationship between stakeholders in the tripartite energy engagement. The common denominator is injustice in all three contexts - climate change, COVID-19, and institutional racism. By showing that there will be no justice, without first recognising the recipients of an unjust system, in determining which remedies should be instituted. This article concludes by stating that even with the current need to have a just energy transition, the transition will not include principles of justice if the victims of the other contexts are not explicitly recognised in the decision-making of such a transition.

Key Words: Climate Change, Covid-19, Racism, Justice

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Climate Change and Justice: An Introduction

Climate change has been prevalent for hundreds of thousands of years, but the recent climate change developments are based not only on nature itself but also on the ice-ages and then the post-glacial periods. Climate change refers to those changes in the climate observed over long periods, causing alterations in the composition of the global atmosphere.[1] The International Panel for Climate Change (IPCC) and the United Nations Framework Convention for Climate Change (UNFCCC) attribute climate change as arising from events beyond human control - natural occurrences and human activity - anthropogenic, with UNFCCC further emphasising that human activity can be either direct or indirect.[2] Human-induced climate change is influenced by several factors like an increase in population growth, economic growth, industrialisation, burning of fossil fuels and other energy-related activities, deforestation, and agriculture.[3]

Carbon dioxide and other greenhouse gas levels in the atmosphere have soared in recent history, since the Industrial Revolution of the 19th Century, up to date.[4] As civilisation moved away from human labour to machinery, it led to a new era of combustion engines that led to excessive burning of fossil fuels that release pollutants, including greenhouse gases. In the last century, human activities have released large amounts of greenhouse gases into the atmosphere, leading to global temperature rise.[5]

The coal mining accidents of the 1800s, development of infrastructure to develop urban areas into mega-cities, both World Wars, the increasing economic disparity between the rich and the poor and developing countries forming developed countries, as well as the need of developing countries gaining from their natural resources, have led to different drivers of energy law on multiple levels of energy jurisprudence namely the international, national and local institutions of energy law.[6] The drivers of energy law have so far been safety, security, infrastructure, economics, and justice.[7]

Since climate change is an ever-time phenomenon, the different changes in drivers of energy law in human history have impacted climate change policy, institutionalism, and activity in global socioeconomic politics. From the perspective of justiciability, the paper *first* seeks to examine if there is justice in tackling climate change, *secondly* if all communities (minorities

[1] Andrew E. Dessler & Edward A. Parson, *The science and politics of global climate change: A guide to the debate*, Cambridge University Press (2019).
[2] *United Nations Framework Convention on Climate Change*, United Nations (1992), https://unfccc.int/resource/docs/convkp/conveng.pdf.
[3] IPCC, *Climate Change 2014: Synthesis Report*, Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)], IPCC, Geneva, Switzerland, 45-47 (2014).
[4] John Taskinsoy, *No Brainer, Tackle Climate Change by 2030 or Await the Doomsday by 2100*, Tackle Climate Change by 2030 (2020).
[5] Peter Erickson, et. al., *Limiting fossil fuel production as the next big step in climate policy*, Nature Climate Change, 8, 1037-1043 (2018).
[6] Raphael James Heffron & Kim Talus, *The evolution of energy law and energy jurisprudence: Insights for energy analysts and researchers*, Energy Research & Social Science 19, 1-10 (2016), DOI:10.1016/j.erss.2016.05.004.
[7] *Id.*

and indigenous communities) are included in domesticating the global climate change regime.

Since the beginning of time and humankind's existence, justice has been the fabric that governs human interaction and social cooperation. Such a framework created a social contract that determined the division of social benefits (Daniels, 2000).[8] Through this framework, a society can determine what is just and unjust, presumably because men make rational decisions regulating claims against one another, as the founding establishment of their society.[9] When tackling climate change using resources (such as critical minerals driving the energy transition found in remote areas), justice has not been at the forefront of:

i. achieving the energy transition
ii. acknowledging the spread of social benefits
iii. following the right procedures and recognising all affected stakeholders.

The lack of justice in such host communities is said to emanate from the fact that communities are blinded by the veil of ignorance that places them in an unfavourable original position when looking at climate change and the energy transition holistically. The veil of ignorance regarding what the energy transition entails in its entirety leaves communities unaware of key facts and the value of the resources driving the transition.

The lack of understanding of the true value of the resources driving the global energy transition does not come from the veil of ignorance that assumes impartiality in making and reaching favourable policies to foster communal development after the fact (Sen, 2006)[10], rather than disregarding the potential benefits of the energy resources that bring an in-justice in these energy resources' utility value. This is because most indigenous and marginalised communities are incompatible with the concept of social cooperation for achieving a mutual advantage when driving the energy transition, as the stakeholders meant to uphold justice within the energy transition are not equals (Robinson, 2010)[11].

Though human interaction and such commercial engagements are ideally aimed for mutual advantage, they are fundamentally marked by conflict due to interests' identity. Furthermore, such conflicts of interests call for a set of principles that are required for choosing among the various social arrangements that determine the division of advantages and guarantee proper distributive shares. This brings about the notion of justice that somehow we must nullify the effects of specific contingencies, which places different stakeholders at odds and lures them to exploit social and natural circumstances to their advantage (Petersen and Roemer, 1997)[12].

The current wave of specific contingencies such as COVID-19, the re-emergence of civil rights due to George Floyd's death in the United States of America, and the never-changing

[8] Norman Daniels, *Reading Rawls*, Stanford University Press, (2000).
[9] Id.
[10] Amartya Sen, *What Do We Want from a Theory of Justice?* Journal of Philosophy, 103(5), 215-238 (2006).
[11] R. Robinson, *Rescuing Justice and Equality. By G.A. Cohen.*, (Harvard University Press, 2008.). The Journal of Politics, 72(4), 1255-1256 (2010).
[12] T. Petersen & J. Roemer, *Theories of Distributive Justice*, Contemporary Sociology, 26(5), 656 (1997).

negative implications of climate change have remained at the forefront of public debate. This paper examines the nexus and correlation between racism, climate change, and COVID-19. Such contingencies affect the distribution, recognition, and procedure of attaining the ills and benefits of energy resources, driving the global energy transition, and have ramifications on achieving justice within this transition. This notion is fundamentally crucial in exhausting and developing energy resources in the current age of climate change.

The "Call" For Justice: Systematic Racism, Climate Change, And The Impact Of COVID-19; Comparative Analysis:

Justice is a phenomenon that is present within any community and human interaction for the aggregate benefit of society (Holland, 2010)[13]. Such benefits of society are protected and delivered by institutions, either public or private. These institutions are created for the efficient delivery of justice, and they must be reformed or abolished if they are unjust (Sen, 2006)[14]. The delivery of the aggregate benefit to society possesses an inviolability founded on justice. By placing this notion of inviolability of justice in different contexts, such as institutional racism, climate change, and the impacts of COVID-19, it is evident that the benefits of particular groups of people can override the inviolability of justice within society. This phenomenon has been collectively prevailing since time immemorial, with the unjust emergence of the Jim Crow era, civil rights movement and currently, the Black Lives Matter (BLM) upspring due to the infamous death of George Floyd (George Floyd unrest: Cities face new looting amid more robust National Guard response, curfews, 2020)[15]. As much as, at face value, institutional racism might seem to lack synergy with climate change and COVID-19, the outcry for justice is a collective need that has to be addressed.

The emergence of justice in environmental and energy matters was started by minorities who saw the need to address the inequity of environmental protection in their marginalised communities (Environmental Justice Timeline | US EPA, 2020)[16]. The Michigan Flint Case, the United States of America, is probably one of the notable case studies of environmental and racial injustice in recent history. The Flint water crisis was rooted in both social and political dynamics that led to uneven exposure to environmental risk and hazards that was based on the people's race, socioeconomic status, and, as well as environmental inequality due to the systematic exclusion of certain people from the environmental decision-making process (Butler, Scammell and Benson, 2016)[17]. The water crisis in Flint, Michigan, was disastrous to the African American and low-income residents on account of the institutions' failure to protect the public's health at various governmental levels. That led to the exposure of lead in young children that were detrimental in intelligence, development, behaviour,

[13] Nicole E. Holland, *Postsecondary education preparation of traditionally underrepresented college students: A social capital perspective*, Journal of Diversity in Higher Education, 3(2), 111-125 (2010).
[14] Amartya Sen, supra note 10.
[15] Louis Casiano, *George Floyd Unrest: Cities Face New Looting Amid Stronger National Guard Response, Curfews*, FOX NEWS, (Jun. 1, 2020), https://www.foxnews.com/us/george-floyd-riots-looting-national-guard-curfews.
[16] *Environmental Justice Timeline*, US EPA, (2020), https://www.epa.gov/environmentaljustice/environmental-justice-timeline
[17] Lindsey J. Butler, et al., *The Flint, Michigan, Water Crisis: A Case Study in Regulatory Failure and Environmental Injustice*, Environmental Justice, 9(4), 93-97 (2016).

attention, and other neurological functions of the African American and low-income residents of Flint, Michigan (Butler, Scammell and Benson, 2016)[18].

Unlike the Flint, Michigan water crisis caused injustice to African Americans and other low-income residents. Climate change is a predominant threat to humanity and to vulnerable, indigenous, and low-income communities. The climate crisis poses a credible threat to the equality and quality of life throughout the world, causing injustice (Roberts, 2001)[19]. Climate change affects people's livelihood across the globe since it threatens food security, water availability, health, housing, and self-determination.

The injustice comes from the burden of climate change impact that is not equally distributed. Communities that are least developed and less-industrialised also have the burden to mitigate the effects of climate change and the adverse effects it brings to the socioeconomic setting of a community (Roberts, 2001)[20]. Furthermore, those that face the severe repercussions of climate change are the least responsible for causing it.

Due to their low technological advancement, heavy reliance is placed on fossil fuels for these countries' economic development, which they have the least capacity to adapt thereof. Climate change further marginalises and reinforces inequalities to minorities and indigenous peoples. This shows that the crisis's disproportionate effects vary in societies and put their very existence in jeopardy, affecting the very underlying framework of achieving a just energy transition.

Though the Flint, Michigan case of environmental degradation is not caused by climate change per se, such scenarios show the synergy between environmental and racial justice. Without a doubt, the climate crisis leaves no community or country unaffected, but the social impacts of climate change deepen the already existing inequality lacunae that exist between the rich and poor, the indigenous communities as well as the minorities (Timmons Roberts and Parks, 2007)[21]. And although the world is tackling climate change through international and regional integration mechanisms, little progress has been made in addressing the racial injustice that has been deepened by climate change combatting mechanisms.

Different minorities and indigenous communities have been affected mainly by the climate change crisis - such as South-East Asia's Dalits. First and foremost, Dalit means "oppressed", and these are members of the so-called lower castes that are subjected to "untouchability" in South-East Asia, including India and Nepal (Dalits – The Oppressed in South Asia, 2020)[22]. The caste system is so engraved in Nepal and India such that regardless of the position such minorities obtain in society, their hierarchy in the socioeconomic status

[18] Id.
[19] J. Timmons Roberts, *Global Inequality and Climate Change*, Society & Natural Resources, 14(6), 501-509 (2010).
[20] Id.
[21] J. Timmons Roberts & Bradley C. Parks, *Fuelling Injustice: Globalisation, Ecologically Unequal Exchange and Climate Change*, Globalizations, 4(2), 193-210 (2007).
[22] Sushmita Lama, *Dalits – The Oppressed In South Asia*, ATLAS CORPS, (Oct.31,2017), https://atlascorps.org/dalits-oppressed-south-asia/.

will be unaffected (Dalits – The Oppressed in South Asia, 2020)[23]. When Cyclone Fani hit Odisha's coast in May 2019, it destroyed the lives and properties of 16 million people (Swati Gupta, 2020)[24]. The worst affected were the Dalit landless farmworkers who were forced to live on the margins of villages, where they got almost no relief due to the caste system (Long Read: Landless Dalits Hit Hardest by Disasters Are Last to Get Relief, 2020)[25].

In the United States, African Americans and other minorities have been primarily affected by the climate crisis. In 2017 Hurricane Maria hit Puerto Rico, where Maria's destruction was devastating with everlasting socioeconomic and political effects in Puerto Rico (Hurricane Maria Exposed the U.S.'s Long Neglect of Puerto Rico, 2020)[26]. The damage amounted to $94.4 billion – crippling an Island indebted economy.[27]. Hurricane Maria exposed the depth of poverty and human rights violations in Puerto Rico, which was a territory of the United States of America, acquired in the Spanish-American War (The Insular Cases: Constitutional experts assess the status of territories acquired in the Spanish–American War (video) - Harvard Law Today, 2020)[28]. The Island has a complicated legal status that leads to poverty and civil rights issues. The Insular Cases determined that the U.S. Congress owns Puerto Rico without granting them full constitutional rights, as are enjoyed by those living in the United States of America.[29] This obstructs access to health care programs like Medicaid and Medicare, fair and equal access to government resources, that help vulnerable communities.

Similar outcomes have been seen in the wake of disasters such as Hurricane Sandy in coastal New Jersey in 2012 and Hurricane Katrine in New Orleans in 2005, where the marginalised communities have been primarily affected both by race and the climate crisis (Lomborg, 2020)[30].

As mentioned earlier, the least contributing communities towards the climate crisis are the most affected by climate change ramifications, either due to the crisis itself or adaptation and mitigation mechanisms deployed to address the climate crisis throughout the world. Though these affected communities are at the epicentre of experiencing the adverse effects of climate change, these communities are nowhere near the decision-making process in addressing

[23] Id.

[24] Swati Gupta,et al., *Cyclone Fani Makes Landfall In Odisha*, CNN (May 3, 2019), https://edition.cnn.com/india/live-news/cyclone-fani-live-updates-wxc-intl/index.html.

[25] Mahima A. Jain , *Landless Dalits Hit Hardest by Disasters Are Last to Get Relief*, LSE SOUTH ASIA CENTRE, (Nov.1,2019), https://blogs.lse.ac.uk/southasia/2019/11/01/long-read-landless-dalits-hit-hardest-by-disasters-are-last-to-get-relief/.

[26] Gabriela Melendez Olivera, *Hurricane Maria Exposed the U.S.'s Long Neglect of Puerto Rico*, AMERICAN CIVIL LIBERTIES UNION (Dec.11,2017), https://www.aclu.org/blog/human-rights/hurricane-maria-exposed-uss-long-neglect-puerto-rico.

[27] Id.

[28] Lana Birbrair, *The Insular Cases: Constitutional Experts Assess the Status of Territories Acquired In The Spanish–American War*, Harvard Law Today (Mar.18,2014), https://today.law.harvard.edu/insular-cases-constitutional-experts-assess-status-territories-acquired-spanish-american-war-video/.

[29] Id.

[30] Bjorn Lomborg, *Welfare in the 21st century: Increasing development, reducing inequality, the impact of climate change, and the cost of climate policies*, Technological Forecasting and Social Change, 156(12), 119981 (2020).

climate change adaptation and mitigation mechanisms.[31] The social, economic, and political power shifts and inequalities have left these affected communities on the peripheries of climate change negotiations with an outcry for justice.

Governments have caused injustice not only in the manner of neglecting remedies for climate injustice to minorities and indigenous communities; but also in their attempts at both climate mitigation and adaptation (Helm, 2010)[32]. Brazil, the largest democracy and economy in South America, has not afforded the indigenous people rights as the rest of the population (Guedes et al., 2012)[33]. During Brazil's military dictatorial age, the indigenous people were reduced to "obstacles to progress", opening their lands to massive abusive human rights developmental schemes.[34]. The Brazilian indigenous inhabitants of the Amazon have paid the price for Brazil's economic growth in the last six (6) decades. In the rich Amazonian state of Roraima, prominent leaders and politicians backed a draft mining bill (Watson, 2013)[35]. This bill opened the indigenous territories to large-scale mining. Furthermore, the rich Amazon's indigenous inhabitants have been displaced due to the construction of hydroelectric dams such as Belo Monte.[36] This means that in Brazil, the indigenous inhabitants of the rich Amazon rainforests have paid both for the industrialisation of Brazil and the energy transition mechanisms, deployed to combat climate change in Brazil.

In Sub-Saharan Africa, many different groups have been affected by both the climate crisis and mechanisms used to combat the same threat, which the government claims to protect these communities. In countries such as Chad, Nigeria, South Sudan, and the Central African Republic, changes in climate have resulted in desertification, drought, and reduced rainfall (Serdeczny et al., 2016)[37]. These changing weather patterns have been detrimental to the pastoralist communities, as a lack of resources has disrupted traditional migration routes and intensified competition and conflict between one another. As much as climate change calls for immediate measures to combat the crisis and protect the livelihood and way of life of all humanity and civilisation, some of these measures have been unjust to these communities. In Kenya, the Sengwer Indigenous people of Embobut Forest have been forcibly removed from their homes and dispossessed of their ancestral lands by the Kenya Forest Service, all in the name of forest conversation (redd-monitor.org, 2019)[38]. The indigenous people have relied on their local ecosystems for centuries. Such a predisposition should make such

[31] Id.

[32] Dieter Helm, *Government Failure, Rent-seeking, and Capture: The Design of Climate Change Policy*, 26(2), Oxford Review of Economic Policy, 182–196 (2010).

[33]Gilvan R. Guedes, et al., *Poverty and Inequality in the Rural Brazilian Amazon: A Multidimensional Approach*, Human ecology: An Interdisciplinary Journal, 40(1), pp.41–57, (2012), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3426830/.

[34] Id.

[35] Fiona Watson, *Brazil's treatment of its indigenous people's treatment, violates their rights*, THE GUARDIAN, (May 29, 2013), https://www.theguardian.com/commentisfree/2013/may/29/brazil-indigenous-people-violates-rights.

[36] Id.

[37] Olivia Serdeczny, et al., *Climate Change Impacts in Sub-Saharan Africa: from Physical Changes to Their Social Repercussions*, 17(6), Regional Environmental Change, 1585–1600 (2016).

[38] *The Sengwer walk for justice and ask for recognition of their land rights in the Embobut Forest, Kenya*, REDD MONITOR, (Oct. 8, 2019), https://redd-monitor.org/2019/10/08/the-sengwer-walk-for-justice-and-to-ask-for-recognition-of-their-land-rights-in-the-embobut-forest-kenya/.

indigenous communities a relevant component in the decision-making process when addressing the climate crisis worldwide to achieve justice.

Climate change and institutionalised racism have not been the only architects of injustice towards minorities and indigenous people worldwide. The COVID-19 pandemic has pushed injustice in unparalleled measures and limits. The pandemic has led to the loss of life and severe global human suffering, causing an unprecedented economic, social, and political crisis (Cocks, 2020)[39]. Once again, the vulnerable groups disadvantaged from their country's governing structure have been placed in a vulnerable position both by the COVID-19 pandemic and measures addressing the global crisis. For example, South Africa, a country that twenty-six years ago attained freedom from the tyranny of the apartheid minority regime (Cocks, 2020)[40], had a fully inclusive democratic election that saw the icon Nelson Mandela elected as the country's first-ever black president by a majority rule ending the tyranny toxic apartheid regime. The critics of Mandela's legacy and the African National Congress (ANC) claim that the ANC has not done enough to redress inequalities in South Africa, including wealth and land redistribution, leaving the looming hangover and legacy of the apartheid regime favouring the white minority population in the biggest economy of Sub-Saharan Africa (Malatsi, 2019)[41].

The two socioeconomic realities of South Africa revealed themselves during the COVID-19 pandemic outbreak, where the lockdown measures were put in place to face the pandemic. The social distancing and self-isolation measures, accompanied by the police and army task force enforcing the lockdown laws, instituted grave injustice to the already disadvantaged black majority of South Africans (Swart, 2020)[42]. The black majority, in dire financial situations with massive unemployment rates and poor quality housing conditions, were socially isolated from the wealth creation value chain of their own country, which put these black communities in a more vulnerable position. On April 10, just two weeks into the country's lockdown due to COVID-19, Mr Collins Khosa died because of injuries to the head, beaten by the security forces in Johannesburg's marginalised community of Alexandra Township *(Khosa and Others v. Minister of Defence and Military Defence and Military Veterans and Others, [20202])*[43]. Judgment was given by the Pretoria-based High Court, declaring that "everyone (both black and white) in the country is entitled to several human rights including the rights to life, the rights not to be tortured in any way and the right not to be treated or punished in a cruel, inhumane or degrading way even during an emergency*"*

[39] Tim Cocks, *Coronavirus stirs rancour in South Africa on Democracy Anniversary*, REUTERS, (Apr. 27, 2020), https://uk.reuters.com/article/uk-health-coronavirus-safrica/coronavirus-stirs-rancour-in-south-africa-on-democracy-anniversary-idUKKCN229269.
[40] Id.
[41]Solly Malatsi, *Manifesto Delivers More Empty Promises from the ANC*, DAILY MAVERICK, (Jan. 13, 2019), https://www.dailymaverick.co.za/opinionista/2019-01-13-manifesto-delivers-more-empty-promises-from-the-anc/#gsc.tab=0.
[42] Mia Swart, *S Africa Court Issues Orders to End Police Abuse during Lockdown*, ALJAZEERA, (May 17, 2020), https://www.aljazeera.com/news/2020/05/africa-court-issues-orders-police-abuse-lockdown-200516105512595.html.
[43] Id.

(Khosa and Others v. Minister of Defence and Military Defence and Military Veterans and Others, [20202])[44].

The effects of institutional racism, climate change, COVID-19, call for justice, and a redress of the social contract to attain a just energy transition. Drawing from the constructivism as well as humanism theories, there needs to be a determination of what is just to ensure the collective well-being of everyone through active citizenship and accountability, which will develop a new social contract within the just transition (Nair, 2020)[45]. Automatically, such a re-dress of the social contract will acknowledge the minority and disadvantaged indigenous communities as both the custodians and victims of the climate crisis remedy measures. Hence there is the explicit inclusion in the decision-making process for the sole purpose of achieving justice.

Conclusion

The common denominator between COVID-19, racial injustice, and climate change is purely based on inequality. In the last century, minorities and indigenous communities have been divided along racial lines, beginning with the expulsion and extermination of indigenous people's such as the Khoi-Khoi of South Africa, the aboriginals of Australia, and the Red Indian Americans in the United States of America, whose land and livelihood was and still is occupied by the "oppressors" that wield the system for their capitalistic gain (Azmanova, 2010)[46]. Even before the Great Depression, profit-driven institutions such as the Imperial British East African Company (IBEAC), and the colonial machinery in different parts of the world, maintained a race superiority caste system that led to wars, genocides, and massive abuse of human rights (Hodge et al., 2016)[47]. The aftermath of such inequality persists today in the era of seeking to attain Sustainable Development Goals.

It would be shocking to acknowledge that climate change, COVID-19, and institutional racism, all perpetuate the same effects on justice. As little debate would be given on racism, much can be argued on climate change. Yet, climate change indeed has the same dreadful ramifications to people of colour, marginalised, and the indigenous people. This does not mean that climate change puts a knee on any minority or indigenous person's neck for eight (8) minutes, as in the George Floyd Case. But the system that calls for the mitigation and adaptation measures in combating the imminent climate crisis are all based on the same system that promoted injustice and marginalised communities in the first place. This includes the real-estate redlining mechanism in the United States, that placed people of colour in

[44] Khosa and Others v. Minister of Defence and Military Defence and Military Veterans and Others, (2020) ZAGPPHC 147 (South Africa Constitutional Court).
[45] Soraya Nair,*An Inconvenient truth: Virus Presents Symptoms of Socio-Economic Injustice*, MAIL & GUARDIAN, (Apr.23,2020),https://mg.co.za/article/2020-04-23-an-inconvenient-truth-virus-presents-symptoms-of-socio-economic-injustice/.
[46] Albena Azmanova, *Capitalism Reorganized: Social Justice after Neo-liberalism*, 17(3), Constellations, 390–406 (2010).
[47] Joseph M. Hodge et al., *Developing Africa: Concepts and Practices in Twentieth-Century Colonialism*, Manchester University Press (2016).

unfavourable living conditions (Doan, 2017)[48], the creation of the Bantustans to marginalise most people of colour in South Africa that later became the modern slams or Townships (Evans, 2014)[49], the exploitation of the Amazon rainforests as well as placing industries in areas of low socioeconomic status (Napolitano, 2007)[50].

This history, infested with inequality and injustice along socioeconomic and racial lines, has negative consequences to the current waves of attaining sustainable development - such as achieving the Sustainable Development Goals, Just Energy Transition, and eradicating the COVID-19 pandemic. This is because, as people living under these harsh conditions comprise most of the world's population, they cannot adequately mitigate the impacts of COVID-19, build infrastructure that serves the energy mix, as well as have the financial and technological capability to meet the demands of climate change mitigation and adaptation in a just energy transition.

What is the nexus between all the injustice in COVID-19, climate change, institutional racism, and energy systems? In this regard, sources of energy and energy systems cause the current revolution throughout the world. Sources of energy are presently the driver of political change and predominantly a wave of neo-colonial expansion to unlock and require new sources of energy for economic development (Meadowcroft, 2009)[51]. As the world seeks to move to cleaner sources of energy, such as renewable energy showing an unprecedented abandonment of the use of fossil fuels as the primary source of energy, the key stakeholders of this transition must ensure that the already marginalised and indigenous people, whose livelihood depends on fossil fuels, should not face the same fate as the aboriginals of Australia, the Sengwer people of Kenya, or the black majority of South Africa. The energy transition must be a just transition in the wake of attaining Sustainable Developmental Goals throughout the world (Williams and Doyon, 2019)[52]. Heffron states that *"to see the just transition requires a new social contract. To deliver such a social contract, there is a need for collaboration from all, not limited to labour unions but also the entire communities of researchers and practitioners from across the areas of energy, environment, climate change and sustainability"* (Heffron, 2019)[53]. This means that the interpretation of justice within just transition must gravitate back to the Rawlsian principles. Each person possesses an inviolability founded on justice that even the welfare of the whole society cannot override.

[48] Michael D. Doan, *Epistemic Injustice and Epistemic Redlining*, Ethics and Social Welfare, 11(2), 177–190 (2017).
[49] Laura Evans, *Resettlement and the Making of the Ciskei Bantustan, South Africa, c.1960–1976*, Journal of Southern African Studies, 40(1), 21–40 (2014).
[50] Dora A. Napolitano, *Towards Understanding the Health Vulnerability of Indigenous Peoples Living in Voluntary Isolation in the Amazon Rainforest: Experiences from the Kugapakori Nahua Reserve, Peru*, EcoHealth, 4(4), 515–531 (2007).
[51] James Meadowcroft, *What about politics? Sustainable Development, Transition Management, and Long-Term Energy Transitions*, Policy Sciences, 42(4), 323–340 (2009).
[52] Stephen Williams & Andreanne Doyon, *Justice in energy transitions*, Environmental Innovation and Societal Transitions, 31, 144–153 (2019).
[53] Raphael Heffron, *Justice in the Energy Transition: The Challenge of Our Time*, UKERC, (March 6, 2019), https://ukerc.ac.uk/news/justice-in-the-energy-transition-the-challenge-of-our-time/.

As much as the term 'Just Transition' is becoming a fundamental concept in the realm of energy law, the just transition phenomenon should not promote the inequality framework in existence since the age of extractive industry popularity. A just transition must ensure that all groups of people enjoy the same rights to happiness, health, safety, and peace. It is also a point to worry that for there to be a just transition, certain minerals should be used to further advance the technology into achieving the goals set out in international instruments such as the Paris COP21 Agreement (Heffron, 2019)[54]. Marginalised and indigenous communities might be placed in the same position as in the 19th and 20th Centuries and shall be looked at as a source of raw materials for this energy transition. Justiciable Energy Transition should be based on the foundations of recognising communities, fair distribution of ills and benefits, and the adherence to the right procedures in order to avoid gravitating back to the excruciating turbines that propelled inequality through the years.

Conclusively, it is vital to note that, for there to be a just and sustainable energy transition that has a direct favourable impact on communities, the recognition of indigenous and marginalised communities and people of colour must be self-determined. Regarding the energy transition, different stakeholders have served their self-interests, there has been minimal research on justice as recognition on the issue (Williams and Doyon, 2019)[55]. As energy transition mainly affects the global community's economic and political structure, little is being said of the people most affected by such a transition. Hence, for there to be a just transition policy, the regulatory experts must consider the history of energy source exploitation. A historical analysis should be taken from a Western perspective and include non-Western policy experts, scholars, and regulators so that a just transition can be applied without leaving any community behind.

[54] Id.

[55] Stephen Williams & Andreanne Doyon, *Justice in energy transitions*, Environmental Innovation and Societal Transitions, 31, 144–153 (2019)

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.

[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]

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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

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[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)

Dispute Resolution Pursuant to the NIP: Favorable Enough to Mobilize Investments in Infrastructure PPPs?

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ABSTRACT

Any country requires a robust legal framework not only to attract the inflow of investments but also to ensure that the project in which the money is invested is completed within the stipulated resources. As wide as the existing infrastructural market in India is, the nation has been consistently striving to cater to the needs of investors in order to strengthen its physical and social infrastructural needs. Although India made a noteworthy improvement in the Ease of Doing Business 2020 ranking, one of the six parameters that saw no significant improvement, according to the report, is enforcing contracts. Undoubtedly, India needs to work considerably on decreasing the time of disposal of cases and improve the index of the judicial process. The paper aims to analyse the legal regime that the government is striving to implement with the goal of making India an investor-friendly environment in infrastructure projects. Further, the paper also studies the possible obstacles an investor might face while seeking a legal remedy according to the persisting laws in India. Lastly, the paper puts forth some suggestions on the basis of the findings to strengthen the legal system.

Keywords: Dispute Resolution, Public Private Partnerships, National Infrastructure Pipeline, State-Investor Disputes, Mediation and Conciliation.

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Introduction

Public Private Partnership Model

Since the initiation of economic reforms in India, the private sector has been given utmost importance in the development of all kinds of infrastructural projects, be it telecom, power, transportation or social infrastructure in form of water supply, sanitation, sewage disposal, healthcare and education. When it comes to major infrastructure development projects, the responsibility of delivery and funding has not been completely delegated in the hands of the private sector. The partial delegation in the hands of the private sector can be commonly seen in forms of outsourcing, long-term leases, sale of assets and disinvestments. Operating under neither a nationalized nor a privatized structure, India does not have a standardized model for Public Private Partnerships ("PPPs").

According to the 2011 Draft National Public Private Partnership policy, a PPP is defined as "*an arrangement between a statutory / government-owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investments being made and/or management being undertaken by the private sector entity, for a specified period of time, where there is well-defined allocation of risk between the private sector and the public entity, and the private entity receives performance linked payments that conform to specified and pre-determined performance standards, measurable by the public entity or its representative.*"[1] PPP models in India range from simple service agreements to complex concession contracts. India supports a diversified model for PPPs in terms of allocation of risks, financial assistance, return mechanism and profitability.

Focusing on the PPPs for infrastructure, the massive amount of investments is ascribable to the scale of operation, the timeline of the project, the number of stakeholders and the performance ability of the workers. The effect of corruption, red tapeism, lack of transparency and lack of effective management is hardly unknown to the nation. The public sector infrastructure in India has repeatedly failed. The debt figures of infamous Public Sector Undertakings (PSUs), BSNL and MTNL that were once contemplated to drive the telecom infrastructure in India continue to increase with every passing fiscal year. Seventy PSUs stood at a loss of over 31,000 crores collectively at the end of 2019. Considering the economic constraints of large-scale funding from the government sector, all major developing and developed countries have encouraged inflow from the private sector. By engaging the skillset and additional expertise of the private sector, the nation endeavors to strengthen the infrastructure delivery system.

Investor & Stakeholders Perspectives

Currently, India provides the largest markets for investments in PPPs, and along with the tremendous growth seen over the years, it becomes impossible not to pay attention to the increasing number of challenges and risks involved. Financial needs in PPPs are supported through various methods ranging from risk allocation, the project's potential of attracting finance and the amount of securities and resources available with the stakeholder. In Design - Build - Operate model, the public stakeholder finances some part or a whole project wherein the private stakeholders bring in the specialized skills and

[1] InfrastructureIndia.gov.in, https://www.pppinindia.gov.in (last visited on May 30, 2021).

expertise to the project. Similarly, parties to the project can outsource project requirements in cases where the growth potential of the project is attractive enough to mobilize funds from infrastructure development finance companies or banks. The popular preference encouraged by the government in India to support project finance is to arrange finances while balancing local financial intermediaries and foreign investments.

At present, India can be seen to be facing an infrastructure deficit as there still exists a huge disparity between the demand and supply requirements. According to the economic survey 2017-18, it is estimated that by 2040 India will require investments of over USD 4.5 trillion specifically to meet its infrastructure needs. Out of which, India is capable to meet USD 3.9 trillion with a deficit of USD 526 billion.[2] The only way to meet this disparity is to attract more foreign investments into the sector. The continuous effort of the government to regulate the social, political and economic factors to meet the deficit has proved to be futile. While these changes are aimed towards attracting more investments, the dynamic and volatile policies have made India an unfavourable market to attract investor's interest because of the lack of security and uncertainties.

Regulatory Framework of Public Private Partnerships

Pursuant to regulate the formation of a Public Private Partnership, the 2005 Cabinet Committee of Economic Affairs (CCEA) authorized a detailed procedure to be followed by the Public Private Partnership Appraisal Committee (PPPAC), which would be responsible for approval of projects. The PPPAC has to mandatorily involve representation from the Department of Economic Affairs (DEA), NITI Aayog,[3] Department of Legal Affairs, Department of Expenditure and any other department sponsoring a particular project. In order to set up a secretariat to the PPPAC, The DEA set up a PPP cell in 2006, which is responsible for all bureaucratic programs and schemes regulations inclusive of Model Concessions Agreements and Capacity Building of projects.[4]

All major infrastructure sectors in India are either regulated under some specific legislation or through some regulatory institutions. If and when a dispute does arise, administered under either one of these methods, the parties involved can then decide to resolve such an altercation according to their regulatory framework. Sectoral segregation of regulation policies evidently showcases either multiple regulators or no independent regulator at all. Airports in India are regulated under statutes like The Aircrafts Act, 1934,[5] Airports Authority of India Act, 1994,[6] Airports Economic Regulatory Act, 2008,[7] as well as under institutional regulations of The Airport Economic Regulatory Authority

[2] ALL INDIA ECONOMIC STRATEGY TO 2035, https://www.dfat.gov.au/geo/india/ies/chapter-9.html (last visited on June 27, 2021).
[3] NITI AAYOG (Infrastructure and PPP Division), http://niti.gov.in/verticals/ppp#:~:text=The%20PPP%20Vertical%20is%20tasked,infrastructure%20projects%3B%20suggesting%20institutional%2C%20regulatory ((last visited on May 30, 2021).
[4] National Infrastructure Pipeline, https://dea.gov.in/sites/default/files/Report%20of%20the%20Task%20Force%20National%20Infrastructure%20Pipeline%20%28NIP%29%20-%20volume-i_1.pdf (last visited on May 30, 2021).
[5] The Aircrafts Act, 1934.
[6] Airports Authority of India Act, 1994.
[7] Airports Economic Regulatory Act, 2008.

of India (AERA).[8] A similar regulation pattern is followed across other infrastructural sectors.

While multiple stringent regulations provide protection to investors resulting in an increase in private participation, an independent regulator does not only speed up the decision-making process but also helps in taking unbiased efficient managerial and operative decisions without any political or organizational pressure intervening in the process.

Infrastructural PPPs are not only bound by statutory and institutional regulations but the control is also delegated upon the consortium in certain cases after the completion of the project under the Build – Operate – Transfer (BOT), Build – Own – Operate (BOO), Build – Own – Operate – Transfer (BOOT), Design – Build – Finance – Operate (DBFO) and O & M (Operation & Maintenance) models of partnership. The Hyderabad Rajiv Gandhi International Airport, among all major airport projects is being managed under a similar manner. The Hyderabad International Airport Limited (HIAL) is a consortium entered upon for a period of 30 years between the GMR Group with a share of 63%, the Government of India (GoI) owning 13%, Government of Telangana owning 13%, and Malaysia Airports Holding Berhad having an 11% share in the project.[9] The model adopted by them was the BOOT model.

Emphasizing the regulatory structure already in place, there exist insignificant policy measures to dissolve an altercation without intervening with the interests of the investors. This gap not only burdens the project with additional costs but also ends up freezing the funding for the rest of the project timeline. Under prolonged disputes and severe situations, investors could also be at risk of being insolvent.[10]

The National Infrastructure Pipeline (NIP)

To achieve the aim of a $5 trillion economy by 2025, the government announced sui generis National Infrastructure Pipeline, which is completely focused towards the goal of attracting more investments according to India's infrastructure demographic needs. The NIP drawn up by a high-level task force under the DEA focuses on the infrastructure needs of each sector separately. A separate repository of data of upcoming and ongoing projects over a net worth of INR 100 crore compiled and provided to the stakeholders will help increase transparency and accessibility of data. According to the World Economic Forum's Global Competitive Index Report 2019, wherein institutions are ranked as the 1st pillar of competitiveness, India ranks 59th in the criterion of transparency.[11] The same report ranks India on 59th, as mentioned under efficiency of the legal framework in settling disputes.[12] In terms of infrastructure, India stands on the 70th rank globally.[13]

[8] Airport Economic Authority of India, 2009.
[9] Hyderabad International Airport, India, https://www.gmrairports.com/airport-hyderabad.aspx (last visited on June 27, 2021).
[10] The World Bank, https://ppp.worldbank.org/public-private-partnership/agreements/concessions-bots-dbos (last visited on July 27, 2021).
[11] Klaus Schwab, The Global Competitive Index Report 279 2019.
[12] *Supra* note 7.
[13] *Supra* note 8.

The NIP focuses on building a robust investment environment by creating a dedicated dispute resolution mechanism for issues arising out of contract deviation to be adjudicated in a timely manner. To achieve the same, a major focus has been directed towards two major elements, i.e., Optimal Risk Sharing and Safeguarding the sanctity of the contract.

The mechanism aims at dividing the risk immaculately between public and private entities with risk allocation to parties who are best equipped to handle the same. Further, the NIP suggests redesigning the already existing mechanism to procure clearances and permission prior to project awarding and bidding. Prior to initiation of the project, land acquisitions, environment clearances, awarding of tenders, and other authorizations consume a lot of time given the bureaucratic environment in India. If the mechanism is efficiently implemented, it could save investors and developers considerable financial as well as non-financial resources. The task force has also suggested adopting an international contract standard which allows more flexibility and possible options for the exit for parties.

Another reform proposed by the task force was finding ways to make Centre, State and local governments to ensure enforceability of a legally binding contract and in case of failure of a party to stand by the binding nature of a contract, a flexible payment termination can be established.

Considering the existing legal framework of India is improving but persists with several lacunas, which could curtail the process of dispute resolution, the task force also recommended that the resolution mechanism be institutionalized to all possible extents. Infrastructure contracts reflect a complex nature between multiple stakeholders, and while enforcing such convoluted contracts, there exists coherent anticipation of the conflict of interest of such stakeholders. Ministry level committees are advised to settle up complex contractual disputes outside the courts through mediation mechanisms.

Apart from the reforms that will either be rolled out as a new regime or redesigned in accordance with the propositions set forward by the task force, there exists a contemporary legal system that can be approached by the parties according to their feasibility and the applicability of such states on the subject matter of the dispute.

Legislative Context – What Does the Law Say?

Central Legislations

Although the Code for Civil Procedure was enacted in 1908 in India as a remedy to civil disputes, including disputes between public-private partnerships and other parties associated with such partnerships, the generic nature of such statutes has made it difficult for the parties to seek effective legal remedy in terms of cost and financial efficiency. The same has been an area of concern of investors for a long time. Moreover, the infrastructure sector does not have a particular comprehensive statute or a specific policy framework that delineates on the subject matter. Addressing the issue of a need for a robust legal framework in order to attract more infrastructure investments, the government enacted specific legislation governing the subject. The National

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Infrastructure Pipeline aims to prioritize effective implementation of these legislations along with other policy initiatives of the state.[14]

Commercial Courts Act, 2015[15]

The Commercial Court, Commercial Division and Commercial Appellate Divisions of High Courts Act, 2015[16] ("Act") was enacted with an objective to establish commercial division in high courts, commercial courts where high courts do not have original jurisdiction and commercial appellate division to adjudicate upon commercial disputes with net value worth rupees one crore. The legislation was amended in 2018 for the speedy redressal of commercial disputes and simplification of litigation procedures. The amendment proposed the minimum value of pecuniary jurisdiction as Rs. 3,00,000/- (Three Lakh Rupees Only) instead of one crore rupees and introduced mandatory mediation before the filing of a suit to be completed within three months in cases where no urgent relief has been sought. The amendment also provides for setting up of commercial appellate courts at the district level where the High Courts do not exercise original jurisdiction and can hear cases that are below the level of a district judge.

Section 2(c)(vi) of the Act delineates the jurisdiction over construction and infrastructure contracts.[17] The Act is also applicable to the appeals and applications arising out of The Arbitration and Conciliation Act, 1996, after the 2018 amendment wherein only High Courts are authorized to hear matters of International Commercial Arbitration.[18] Therefore, if a commercial dispute falls under the pecuniary jurisdiction of the court, commercial courts established under the Act can act as an adjudication authority over such cases.

To enact the Act in consonance with The Civil Procedure Code, 1908, the Act specifies a Schedule amending certain provisions of the code which are applicable to the disputes of a 'Specified value'.[19] The Act has an overriding effect over the provisions of the code and in case of any conflict between the Act and the Code, rules of the jurisdictional High Court will hold applicability. According to the amendments made to Order V and Order VIII of CPC, the time period for filing a written statement has been changed to 30 days from service of summons to a maximum time period of 120 days. The Act for the first time, has introduced the practices of Summary Judgements and Case Management Hearing under Order XIII-A and Order XV-A, respectively.

Summary judgment, except for in cases of Summary Suits, is those judgements that a court can pronounce against the defendant or the plaintiff if it believes that either of the parties are unable to justify or defend the claim even before filing of oral evidence.[20] The court can proceed with an application for Summary Judgement only after the summons have been served to the defendant but before framing of issues. Through Case Management Hearing, the court has the power to fix timelines and dates for all stages of

[14] Public Private Partnership in India, https://www.pppinindia.gov.in (last visited on June 27, 2021).
[15] The Commercial Courts Act, 2015.
[16] The High Court's Act, 2015
[17] The Commercial Courts Act, 2015, §2(c)(vi).
[18] The Arbitration and Conciliation Act, 1996.
[19] The Civil Procedure Code, 1908.
[20] Rules of Trial Procedure, https://www.in.gov/courts/rules/trial_proc/index.html (last visited on June 27, 2021).

the suit. The further time period for an infrastructure dispute to go forward with the first Case Management Hearing is four weeks from the date of filing of an affidavit of admission or denial of documents by all parties to the suit, and the arguments are to be concluded within 6 months from the first Case Management Hearing. The court is bound to adhere to the timelines fixed, and no adjournments are allowed for the reason of absence of counsel, which will prevent unnecessary delays and ramp up the dispute resolution process. Deviation from the timelines or hearing dates by the parties shall be condoned by the court only after the payment of costs by the parties. Additionally, Willful disobedience in exceptional cases can also lead to dismissal of the plaint.

It is evident that the intent of the statute is to reduce the delay in procedures in all kinds of commercial disputes, including infrastructure disputes which will help the nation improve the perspective of the investors in terms of ease of enforcing contracts in India. The Act has helped India attract substantial foreign investments as it strengthens the existing legal framework of the country. The NIP also aims at implementing and boosting any institutional framework that lacks efficiency.

Specific Relief Act, 1963[21]

The Specific Relief Act. 1963 ("SR Act") has acted as an equitable remedy in cases where a party to a contract breaches such contractual obligations. By the authority of this Act, the court orders a party to perform its duties instead of awarding monetary relief to the party by way of which no additional costs are incurred in the project except for litigation costs. The Special Relief (Amendment) Act, 2017, provides for the setting up of one or more special civil courts in different states under the consultation of the Chief Justice of High Courts for the resolution of infrastructural disputes within its local jurisdiction. These courts are specifically set up to engage and effectively resolve disputes within a time period of twelve months from the date of receipt of summons by the defendant. However, the time period can also be extended for a duration of another six-month based on the discretion of the court. Even though the Act was passed and enacted in 2017, only the HCs of Allahabad, Karnataka and Madhya Pradesh have Designated Special Courts for trial and ordered the special hearing of infrastructure disputes. The Ministry of Law has addressed the matter to the rest of the HCs stating that setting up of these special courts is a fundamental step towards gaining the confidence and trust of the investors.

Furthermore, the Act restricts civil courts to grant an injunction to any infrastructure dispute, which could possibly act as a barrier in the enforcement of the contract and completion of work. These provisions will ensure that no unnecessary delays are made in the operations of an infrastructure project, consequently safeguarding parties and developers from any unanticipated costs.

State Legislations

The infrastructure sector in India covers various independent as well as interconnected sectors. According to the Seventh Schedule of the Constitution of India, the Central government has the authority to enact laws relating to Ports, Airports, Railways, National Highways, Inland Water Transport, Telecommunications, Oilfields and Mineral Resources, whereas the state holds authority over subject matters like Prisons and

[21] The Specific Relief Act, 1963.

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Corrective Facilities, Regulation of Local Governments, Public Health and Sanitation, State Highways, City Roads, Water Supply and Irrigation.

While there exist Central legislations on some specific sectors like The Electricity Act, which is a matter under the concurrent list, a specific statute does not regulate the infrastructure sector. Regulations of PPP in states are ensured in the form of policies, programs and rules. Although there is no specific recourse mentioned under these regulations, parties tend to resolve disputes amicably through settlements.

Considering the topography, population and resources of the country, infrastructure needs vary from state to state. Owing to different infrastructure needs, different states have enacted specific legislation to attract private investors and regulate PPP. Among them are the Andhra Pradesh Infrastructure Development Enabling Act, 2001 ("The AP Act"),[22] Bihar Infrastructure Development Enabling Act, 2006,[23] Punjab Infrastructure Development and Regulation Act, 2002[24] and the Gujarat Infrastructure Development Act (1999).[25] The dispute resolution mechanism in these specific legislations is according to what their respective state governments consider appropriate to meet their infrastructure needs. For example, the Andhra Pradesh Infrastructure Development Enabling Act, 2001 requires the establishment of a Conciliation Board for settlement of claims and conflicts between the Central or State Government and developers. With the intention of minimizing the need and interference of court procedures, the AP Act specifically applies Section 66 of The Arbitration and Conciliation Act, 1996. Section 66 states that the provision of the Civil Procedure Code, 1908 and The Indian Evidence Act, 1872 do not hold applicability in conciliation matters. The Act also restrains the parties to go forward with any judicial or arbitration proceeding without going for conciliation first.

Are Alternative Resolution Mechanisms Supported by the NIP?

Dispute Resolution Clause

A popular and safe practice before entering into a partnership includes pre-defining of rights and liabilities of all the parties. When all the parties to the project agree on such pre-defined rights and liabilities, a binding contract is drawn up and signed by them. According to recent trends of drawing up agreements and contracts, a dispute resolution clause is inscribed wherein the parties agree to settle any dispute arising out of that contractual relationship pursuant to a pre-decided method of resolution or multiple alternatives. In a dispute resolution clause, the parties mutually decide to settle a matter in accordance with prevalent legislation or alternatives for litigation, which is inconsistent with their contractual obligations and the legal framework of the country.
Arbitration

Arbitration proceedings in India are governed under The Arbitration and Conciliation Act, 1996[26] , which is based on UNCITRAL model law.[27] The Act provides for the

[22] The Andhra Pradesh Infrastructure Development Enabling Act, 2001.
[23] The Bihar Infrastructure Development Enabling Act, 2006.
[24] The Punjab Infrastructure Development and Regulation Act, 2002
[25] The Gujarat Infrastructure Development Act (1999).
[26] The Arbitration and Conciliation Act, 1996.
[27] UNCITRAL model law on International Commercial Arbitration, 1985.

resolution of disputes within a specific time along with limited grounds available for challenging an arbitral award by parties who prima facie mutually agree on such proceedings. Arbitration laws have turned into a befitting popular choice for dispute resolution among parties entering into infrastructure contracts after diverse interpretations on questions regarding jurisdiction and enforceability are made clear under recent amendments or through adjudications of the Supreme Court.

Considering the increasing global popularity of arbitration proceedings in resolving disputes, India has faced a daunting challenge in gaining the trust of foreign investors after the investors and developers in the Nathpa Jhakri Hydro Electric Power Project were levied with additional costs because of the prolonging arbitration proceedings. The 1500-MegaWatt project was assigned for development to the Satluj Jal Vidyut Nigam Ltd. (SJVN), which included three major contracts.

The dispute resolution mechanism of the project comprised of a three-tier redressal mechanism.[28] Firstly, a contracting party had to approach the Engineer-in-charge (EIC), followed by the CMD and lastly the Dispute Review Board (DRB). The mechanism was included in the project to assure the presence of an in-house counsel for continuity of work even in cases of dispute. The DRB successfully resolved 16 disputes out of 26 disputes and the rest of the matters were escalated to arbitration. However, questioning the binding authority of the DRB, the contractors refused to implement the recommendations on Extension Time claims. An arbitral tribunal was constituted in 2005 in reference to the claims and in 2008 extension was awarded to the contractor. The dispute resolution cost the project three years of delay in the project along with an additional cost of Rs. 2186.17 crore. The delay in the project was caused by other geological and economic factors as well but the time taken up to resolve disputes with the contractors clearly reflected the hostile investment environment on a global scale since the project was funded by the World Bank.

The practice of constituting DRB was introduced by the World Bank in projects worth $50 million or more. Since then, the formation of the DRB and Dispute Adjudication Board (DAB) has become a common practice in all major infrastructure projects. Even though the constitution of an arbitral tribunal and DAB/DRB includes expert or neutral members, the award recommended by a DAB/DRB lacks enforceability. After a party has decided to act in defiance of such an award or is unhappy with the same, the party seeking enforceability of the award will have to further refer the matter to arbitration or court.

Enforceability of Arbitral Awards

The Arbitration Act establishes well-defined grounds to challenge the enforceability of an arbitral award under Section 12 for domestic Arbitration and Section 34 for International Commercial Arbitration.[29] Amongst these grounds under Section 34 exists a very wide scope of interpretation in the name of *'Fundamental policy of India.'* The Apex Court has time and again interpreted the meaning and scope of the term public policy including in the infamous case of *ONGC v. Saw Pipe*s and *Renusagar Power Co.*

[28] Aecon, https://www.aecon.com/our-expertise/our-projects/landmark/nathpa-jhakri-hydroelectric (last visited on June 27, 2021).
[29] The Arbitration and Conciliation Act, 1996, §12.

v. General Electricals.[30] Taking the dynamic political and economic changes in society into consideration, the interpretation of public policy still remains uncertain, which poses a threat to investors. Even after following the due process of dispute resolution, if an award is announced in favour of an investor, the possibility of not being able to enforce the award prevails. This discourages present as well as future investors seeking smooth operation of the business in return for profits.

State- Investor Dispute Resolution

Bilateral Investment Treaties (BITs) enables an investor to initiate a proceeding to seek legal remedy without any intervention from the state. The dispute resolution clause in a BIT specifies the remedies available to an investor. The popular choice for dispute resolution amongst countries signing BITs and prospective investors is International Commercial Arbitration (ICA) and the preferred institute for the same remains The International Centre for Settlement of Disputes (ICSID).[31] However, India is not a signatory to the ICSID convention and follows the UNCITRAL model law.[32] As of 2019, India has terminated 69 BITs which implies that all the investors seeking protection by way of these BITs will no longer be able to enjoy the same. As a result of the lack of protection offered in case of a State- Investor dispute by India, the nation is bound to face problems to attract FDIs in the infrastructure sector as well.

Mediation and Conciliation

Mediation and Conciliation act as the most amicable method of settlement of a dispute. A third impartial and independent party moderate concerns and conditions of both the parties and heads towards a viable solution for both. Both mediation and conciliation are very efficacious time and cost-wise because of the flexibility of the procedures that are offered by the structure of the proceedings. As cordial as the proceedings and the outcome of such proceedings be, the non-binding nature of both the settlement mechanisms still acts as a major drawback. In cases where one of the parties refuses to act in accordance with the settlement terms, the other party is left with no other alternative but to approach a binding authority which could be either arbitration or litigation. In the PPP model of infrastructure disputes where one party is in a position to exert political or bureaucratic burden over the other, the outcome of such an amicable mechanism might not necessarily help ensure equity and justice. There exists a number of external influences which could weigh down the interest of other stakeholders as compared to an entity with ample resources. At the same time, various major institutions have also established their own resolution mechanism that is bound in terms of implementation by the authority of framework they were enacted under.

NHAI is a major participant when it comes to the road infrastructure projects of India. The Ministry of Road Transport & Highways (MoRTH) has defined Standard Operating Procedure (SoP) for referring the disputes of the autonomous body with any Contractors/ Concessionaires/Consultants to a Conciliation Committee of Independent Experts (CCIEs). The parties to the dispute are at liberty to refer a dispute to the conciliation mechanism or court in consonance with their contractual obligation but if the party agrees

[30] Oil & Natural Gas Corporation Ltd v. Saw Pipes Ltd, (2003) 5 SCC 705 & Renusagar Power Co. Ltd. v. General Electric Co. ,1994 Supp (1) SCC 644
[31] The International Centre for Settlement of Disputes (ICSID), 1996.
[32] *Supra* note 24.

to refer the dispute to CCIE, then according to the SoP, the recommendation or settlement by the CCIE is to be followed in a time-bound manner by both the parties. The MoRTH is responsible for implementing and supervising the working of the CCIE in consistency with The Arbitration and Conciliation Act, 1996.[33] The timely and economic edge extended by Mediation and Conciliation can be used to the advantage of convenience to the investors.[34]

The Existing Framework: Is It Enough to Propel the Nation's Aspirations?

There have been efforts from the government to enact and implement laws and policies to strengthen various infrastructure sectors, but the practice of exploiting public resources in order to escape accountability and liability by the government sector is not a surprise practice in the nation. With additional hurdles of court intervention and difficulty faced in enforcing awards in infrastructure projects. The government sector undertaking spares no chances to exploit the legal framework to the farthest as possible. Referring to the privileges and abundant resources with the Government sector enterprise, the Delhi HC highly discouraged the practice of filing challenges to an arbitral award by government companies and dismissed the appeal with costs. In the aforementioned case, NHAI was the party challenging the arbitral award after the successful completion of arbitral proceedings.

The arbitral award was announced against NHAI. The then acting Chief Justice of Delhi High Court, Justice C. Hari Shankar, stated - *"Despite wealth of judicial authority on this point, and repeated disapproval voiced by the Supreme Court and as well as several High Courts including this Court thereon, it is almost invariably seen that every award passed by the arbitrator/Arbitral Tribunal, especially, where the awards are commercial in nature, are challenged, first before the Single Judge and thereafter before the Division Bench merely because the "aggrieved party" possess the financial wherewithal to do so. It is a matter of concern that the majority of such challenges are by public sector undertakings, the appellant before us being one of the main contributors thereto. Such attempts contribute, in a great deal, to the menace of "docket explosion", which plagues our Courts and consumes valuable time which could be used for settling more important disputes. We unhesitatingly deprecate this practice."*[35]

Analyzing the potential laws that were enacted with a view to efficiently resolve a dispute while strengthening the legal system in such a manner that also reflects as a positive investment market, it is fair to say that no material change can be seen as of now. Even though laws have been enacted to establish special courts for timely disposal of cases, the courts are nowhere near to incorporation, let alone reach a stage of efficient functioning. The government needs to assure the implementation of laws in accordance with the similar intent such laws were enacted for. Additionally, India needs to work on enforcing contracts without judicial intervention as it can save huge costs adding to a project. Pushing the parties to a dispute towards amicable settlement of disputes assuring completion of infrastructure projects and protection of investments simultaneously will prove to fulfil the interest of all the stakeholders.

[33] The Arbitration and Conciliation Act, 1996, §66.
[34] MORTH, https://morth.nic.in/ (last visited on June 27, 2021).
[35] NHAI v. M/S. Bsc-Rbm-Pati Joint Venture, 248 (2018) DLT 711.

Most of all, India lags considerably in terms of enforcing awards and settlements which discourages investments. With such lacunas affecting projects that are of national and public interest, there still exists a long way ahead for India to meet its rising infrastructure demands.

Conclusion

There exists an extensive need as well as the potential for investments in the infrastructure sector, but these opportunities need substantial improvements so as to meet with the interest of the investors.

The foremost concern of the government whilst strengthening the legal regime should be to provide investors with investment protection and safety to the maximum possible extent. Any entity or stakeholder joining hands with a PSU in India would primarily aim to gain maximum profits and secure these profits for a longer period of time.

This calls for a stable policy framework that an investor can rely upon under ordinary political and economic circumstances. Implementation of the NIP could prove to be a groundbreaking step if implemented with strict regulation and supervision. Additionally, all the efforts of the legislature towards successfully enacting laws to save time and financial resources for investors will yield outcomes as and when effectively implemented. Even after years of enactment of these laws, infrastructure disputes still continue to be among matters prolonged for years. Considering the number of stakeholders involved in a project, the disposal time of cases can still be decreased considerably if the nation overcomes the lacunas in the legal and regulatory system.

A contemplation of methods to invigorate the prevalent practices, a pro-enforcement approach is required with the object of providing stability and reliability to the private sector. The burden of piling infrastructure disputes can be brought to control if the awards rendered by DABs and DRBs are enforced with the same conclusiveness as compared to arbitral proceedings. While the government strives to pay significant emphasis to attract and substantiate the private sector, there is a need to monitor the accountability of the government sector. Essentially, when it comes to the government sector, public resources and public money ought to be used to the advantage of the development of the nation.

The fundamental concepts of optimal risk sharing and preserving the sanctity of the contract proposed under the NIP seems to cover these lacunas in a broader sense, and the similar concepts, if implemented specifically to each and every infrastructure sector, can help India attract investments to meet its growing infrastructure needs.

An Analysis on the Sectoral Dynamics in the Privatisation of Ports in India: The Way Ahead

Mr. Swarnendu Chatterjee[*] and Ms. Aakaansha Arya[**]

ABSTRACT

India's maritime port sector upholds enormous potential to grow against International benchmarked standards with its extensive coastline and port-led infrastructure. An integrated approach between the Central Government and private players would realize Indian ports true economic value. This article presents insights on the recent legislative developments and the government's playbook over the last decade in altering transition in private sector participation in Indian ports. The authors elucidate on the existing dynamics of the privately-owned minor ports against government owned major ports. The study highlights the prevailing set of circumstances in public-private-partnership (PPP) agreements in India and the prospects of future PPPs in determining holistic burgeoning of economic advancement in the port sector. The study tenders to offer a sectoral analysis of PPP agreements, privatization and corporatization in ascertaining India's fate in this sector. Finally, the authors analyze India's 2030 vision in administering best-in-class port infrastructure development, logistical modal-mix and adopting transition in existing legislative frameworks and modes of PPP in attracting private sector participation in benchmarking India as a Global port hub.

Keywords: PPP, Private, Infrastructure, Ports, Government

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Introduction

India's transition from a stagnant economy commenced in 1991 with the initiation of a liberalized industrial policy.[1] Today, India's maritime sector constitutes 12 Major ports and over more than 200 Minor Ports positioned across the long coastline of 7500 km and an extensive network of navigable waters.[2] The comprehensive trade growth of the country is detrimental to a country's maritime sector, which plays a pivotal role in measuring economic growth. India's 95% Export-Import (EXIM) trade volume and 65% trade value is assumed via maritime transport. Two Indian ports, Jawaharlal Nehru Port Trust (JNPT) and Port Mundra, ranked 33rd and 37th respectively in the Global Top 40 Container Ports.[3] The total traffic handled today by the Indian ports is 1307 Million Tonnes Per Annum (MTPA)[4]. Major Port sector in the last five years have witnessed a compound annual growth rate at 4% and have handled nearly 54% of the country's total cargo in 2019-20.[5] While the major ports across India are administered by the government under the Shipping Corporation of India, a vast majority of minor ports are operated by private corporations and enterprises. With the launch of the Sagarmala project by the Ministry of Shipping, Ports and Waterways, the last decade had witnessed some significant trends in the industry. The successive governments in India have extended sustenance to this evolution across three dimensions *firstly,* reshaping existing policies and introducing new policies to boost greater competition across the ports; *secondly*, creating opportunities for the private stakeholders and investors to shrink fiscal burden and elevate commercial activity; *thirdly*, devising frameworks and delivering inland and waterway infrastructure for port productivity and enhancement and hinterland connectivity.

However, India's port rejuvenation persists to lingers against the other rapidly flourishing economies like Singapore, China and Malaysia. India's infrastructure is in bad shape and port infrastructure is not an exception with low cargo handling standards, insufficient machinery or equipment, poor dredging capacity, absence of technical expertise and port connectivity to the hinterland thereby, resulting in increased cargo handling cost and slow vessel turn-around time. This inefficiency in operations have resulted in higher freight rates coupled with long cycle time thereby, keeping Indian ports at a competitive disadvantage against international standards.[6] The aforesaid illustration of a tightening bottleneck is evident through slow economic growth and deficient system in the port sector. One must take into purview that if India seeks to become a $5 trillion economy, it solely cannot become one by merely improving

[1] Shashi N. Kumar, *The Indian Port Privatization Model: A Critique*, Transportation Journal, (April 1998).

[2] Indian Ports Association (IPA), Statistics report for FY20

[3]Lloyds list, *One Hundred Container Ports 2020*, https://lloydslist.maritimeintelligence.informa.com/one-hundred-container-ports2020#:~:text=Welcome%20to%20the%202020%20edition,the%20calm%20before%20the%20storm
(last visited May 28, 2021).

[4] Ministry of Post, Shipping And Waterways, Government of India, *Update on Indian Port Sector up to 31.03.2020*, http://shipmin.gov.in/content/update-indian-port-sector-31032020 (last visited May 28, 2021).

[5] IPA, *supra* note 2.

[6] Indian Infrastructure, *Sector Review*, https://indianinfrastructure.com/2018/08/21/sector-review-3/ (last visited May 28, 2021).

infrastructure within the geography, India needs to create a demand for international trade[7].

Concurrently, India is witnessing a silent rise of private ports slyly shifting the cargo traffic from government-run ports to private ports. This advancement in the private sector is a relatively recent phenomenon. Gujarat has emerged as the chief maritime state in relation to port and operational capacity, cargo traffic and private sector investment, subsequently widening the existing gap in container volumes between itself and Jawaharlal Nehru Port Trust (JNPT; Major Port), thereby emanating itself as a rival to the dominant public ports. This transition landscape backed by aggressive marketing strategies demonstrated by the private players in the minor ports has affected the operations and profitability at government owned major ports. This transformation in the industry has created an exigency for the Government ports to take action to improve and stimulate private sector participation in the port industry. While presenting the Budget earlier this year (2021), the Finance Minister embarked a leap from shifting from a service model to a landlord model wherein a private operator would take over the handling of operations at the Major Ports entered through a Public-Private Partnership (PPP) mode, further proposing that operational projects worth 2000 crores across seven major ports in the country would be entered via PPP mode by Financial Year'22.[8]

This study is contextualized into expanding the very limited literature that is available on the Indian ports. The authors overcome this challenge by propounding existing port statistics released by the Centre. The goal and objective of this study is to bring into light the recent developments in the port sector and the latest trends in the industry that is revolutionizing the existing landscape for the government and the private sector. The first segment of the study highlights the existing government initiatives and legislative developments undertaken in the past decade to boost private sector participation and port productivity and identifies the shortcomings that may require a revamp in the system. The section also enumerates the effect of the requisite government initiative in shaping the current landscape in the port sector. The second section contextualizes the trends that have resulted in the rise of the private port sector and the existing deficiencies in the government owned ports. The authors in this segment attempt to establish their analysis based on the study of two rival ports in the country, i.e. JNPT and Mundra Port making the main focus of this study. The absence of empirical study discourages the authors to elucidate the potential impact of private ports in the existing port structure. The final section highlights the key issues concerning the port productivity that is discouraging the private players from entering the port sector and the future developments that India expects to undertake by 2030. The study identifies the sectoral issues prevailing and suggests adequate steps and measures to overcome the lacuna in the system.

On the brink of industrialization in a liberalized economy like India, in its intermediate stage offers an appropriate time phase to study the emerging private port sector and its

[7] Kailas Venkita Subramaniana, Jean-Claude Thillb, *Effect of privatization and inland infrastructural development on India's container port selection dynamics*, THE ASIAN JOURNAL OF SHIPPING AND LOGISTICS, 206 (2021)

[8]Ministry of Finance, Government of India, Union Budget 2021 (Issued on Feb. 1, 2021)

intersectional analysis in analyzing the dynamics of adopting the PPP model for the public sector.

Government Initiatives Undertaken for Private Sector Participation

'Sagarmala' – Nation Perspective Plan

Envisioned by the former Prime minister, Atal Bihari Vajpayee, the scheme of *Sagarmala* was conceptualized and approved by the Union Cabinet on March 25th, 2015 to foster port-led development and modernization, port industrialization and port connectivity development. Beyond 400 projects were devised and mapped at an estimated investment of Rs 8 Lac Crore[9]. *The National Initiative Programme (NIP)* under its Sagarmala project seeks to be a game-changer in India's logistic sector performance in unlocking India's full potential of its waterways and coastlines by lowering logistical costs for export and import cargo alongside adequate infrastructure investment.[10] The NIP devised its plan to revolutionize logistics by augmenting port-led modernization and industrialization alongside seamless intermodal port connectivity in unlocking India's true economic value. The programme highlighted a part-wise opportunity plan; i.e. by ameliorating the logistical modal-mix, India would accountably save between Rs 35-40000 Crores[11].Further by enhancing the time and cost of container shipment, the export and import competitiveness would marginally improve. Additionally, India lacks an international transhipment port. A sizable volume of transhipment is handled by ports of Singapore, Colombo and Klang, while ports of India, JNPT, Paradip port have a strong network, their element of transhipment is considerably small, hence, there is a need to transform India into a global force for container shipment[12]. The initiative locates industrial capacities near the coast to lower logistic cost of bulk commodities and suggests enhancing export competitiveness by embellishing port proximate discrete manufacturing clusters. In 2021, the *Sagarmala Development Company* (SDCL) signed 48 Memorandum of Understanding's (MOU) for undertaking maritime projects worth an investment of 11,870 crores with public and private stakeholders with respect to developing product-specific warehouses, coastal shipping vessels and manage operations of specialized vessels; roll-on and roll-off[13]. The *Maritime India Summit 2021* urged private investors to invest in Indian ports stating that the Sagarmala project has devised 574 projects worth an investment of Rs 6 Crore.[14]

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[9]Ministry of Shipping, Government of India, *The Sagarmala Post, January 2017*, http://www.shipmin.gov.in/sites/default/files/6642376426SagarmalaNewsletterFinal28122016.pdf. (last visited May 28, 2021).

[10]Ministry of Shipping, Government of India, Sagarmala The Big Picture http://sagarmala.gov.in/sites/default/files/Sagarmala%20the%20Big%20Picture.pdf (last visited May 28, 2021).

[11] *Id.*

[12] PTI, *Sagarmala Development Co inks pacts for maritime projects worth Rs 11,870 cr*, THE ECONOMICS TIMES (May 28, 2021 at 15:22) https://economictimes.indiatimes.com/industry/transportation/shipping-/-transport/sagarmala-development-co-inks-pacts-for-maritime-projects-worth-rs-11870-cr/articleshow/81272798.cms

[13]*Id.*

[14] Ministry of Port, Shipping and Waterways, Governement of India, *Maritime India Summit 2021*, Page 58 https://www.maritimeindiasummit.in (last visited May 28, 2021).

Project Unnati - Benchmarking India's Port Productivity

Project Unnati was conceptualized by the government for the identification of a benchmarking module of quantitative criteria of opportunities and areas of improvement by overseeing port operations, human resources, financial resources and efficiency parameters for the purpose of devising a framework for benchmarking productivity and efficiency of major ports against international standards in India and envisaged the chief performance indicators for the terminals and ports.[15] The aforesaid study to determine the quantitative benchmarking module is undertaken by *Boston Consulting Group* (BCG) with respect to scrutinizing maturity assessment of marine operations, cargo and vessel operations, maintenance, gate-in and gate-out operations, customs etc. so as to identify the efficient capacity utilization and underlying performance metrics by identifying gaps for further reinforcement[16]. According to a 2019 report, 116 initiatives were identified for the 12 Major Ports and a roadmap was proposed under Project Unnati to augment the traffic volume appreciably and to avoid capital expenditure. Among the 116 initiatives, 95 have been implemented.[17]

Model Concession Agreement for PPP

With an objective to imbibe a shift of the Major Ports to a 'landlord model' involving private players enter into commissioning agreements, in 2018, the Government approved amendments to the *Model Concession Agreement* (MCA)[18], with an aim to reflect the investment climate in the port sector further attractive and friendly for the future in Port Projects undertaken. One of the key amendments envisaged under the agreement was the constitution of the *Society for Affordable Redressal of Disputes – Ports* (SAROD - PORTS) to inculcate credence and trust among the private stakeholders[19]. Other features under the model agreement includes providing the private players with an exit route by disinvesting equity up to 100% following the completion of two years from the Commercial Operation Date (COD). Additionally, the land rates for the concessionaire have been reduced from 200% to 120%[20]. One of the long-prevailing grievance of the PPP operators was with regards to the revenue share being often payable at ceiling tariff rates, and as such, price discounts getting disregarded was resolved by an amendment made under the agreement pertaining to concessionaire paying royalty based on per metric tonne (M.T.) of cargo being handled which would be indexed to the variations in wholesale price index (WPI). Further, the concessionaire would have the discretion to station better facilities, technologies and equipment in order to achieve greater productivity and capacity utilization, thereby saving costs. The aforesaid amendments had been undertaken taking into consideration the past

[15] Unnati Organisation for Development Education, *Current Porjects – Programmes*, https://www.unnati.org/current-eu-projects.html (last visited May 28, 2021).

[16]Ministry of Shipping, Government of India, *Update on Ports Sector, 2019* http://shipmin.gov.in/sites/default/files/septcompressed.pdf (last visited may 28, 2021).

[17]*Id* and Ministry of Ports, Shipping and Waterways, *Implementation of UNNATI Project*, https://pib.gov.in/PressReleasePage.aspx?PRID=1523780 (last visited May 28, 2021).

[18] Concession Agreement, http://www.ipa.nic.in//showimg.cshtml?ID=826 (last visited may 28, 2021).

[19]Ministry of Ports, Shipping and Waterways, Government of India, *Shri Mansukh Mandaviya launches 'SAROD-Ports' today*, https://pib.gov.in/PressReleseDetailm.aspx?PRID=1652979 (last visited May 28, 2021).

[20]Ministry of Ports, Shipping and Waterways, Government of India, *Government Revises Model Concession Agreement for PPP in Major Ports*, https://pib.gov.in/PressReleasePage.aspx?PRID=1523352 (last visited May 28, 2021).

experiences in handling PPP projects and to enable to create a more investor-friendly environment for private players in the port industry.[21]

Currently, the MCA approved in 2018 is being followed. Despite the efforts undertaken in the form of amendments, the government failed in its attempt to create a lasting sentiment on the private stakeholders for PPP projects at Major Ports. This is evident from the fact that there has barely been any project that has been entered upon under the new MCA through the bidding process. This may partially be on account of overcapacity across the cargo sectors at the Major Ports and partly due to the depressed demand on a global economic scale. In order to understand this, one must take into consideration that the 12-state owned major ports across the country have an overall capacity to manage cargo of 1515.09 MT in a year. The 2019 statistical report stipulates that the ports combinedly loaded 699.10 MT of cargo, facilitating only 46% of capacity utilization[22], while during the financial year 2020, the ports together loaded cargo worth 552.83 MT, thereby averaging a 13.9% decrease in growth against the preceding year[23]. In 2020, MCA was adopted by the *Inland Waterways Authority of India* to privatize India's first riverine terminal at Varanasi with respect to maintaining infrastructure and operational requirements. However, on account of no bidders showing up, the tender was cancelled by Inland Waterways Authority of India (IWAI)[24]. Currently, in the light of the aforesaid, the Ministry of Shipping again seeks to make amendments to the prevailing MCA to draw a parallel with the best practices in order to further attract private players in the port sector.[25]

Major Port Authorities Act, 2021 – The Game Changer

In February 2021, the parliament enacted the *Major Port Authorities Act, 2021* which replaces the *Major Port Trust's Act, 1963*. This Act seeks to provide autonomy to the Major Ports in the country. The Act attends to furnish provisions on operations, regulation and planning of major ports alongside bestowing greater autonomy to the major ports. The Act redefines the mantle of the Tariff Authority for Major Ports (TAMP) by envisaging power to the Port Authority to fix tariff rates which would consequently be a reference tariff for the purpose of bidding in Public-Private-Partnerships (PPP) Projects. The aforesaid tariff rates would be thereafter fixed at the discretion of the concessionaire taking into consideration the market conditions prevalent and other conditions as notified.[26] Further, the port authority board has been entrusted with the authority under the Act to fix the scale of rates assets and services

[21]*Cabinet approves revised Model Concession Agreement for PPP Projects in Major Ports*, PMINDIA https://www.pmindia.gov.in/en/news_updates/cabinet-approves-revised-model-concession-agreement-for-ppp-projects-in-major-ports/ (May28, 2021 at 15:51).

[22]Ministry of Ports, Shipping and Waterways, Government of India, *Basic port Statistics 2018-2019*. http://shipmin.gov.in/content/basic-port-statistics-2018-2019 , (Last visited May 28, 2021).

[23]Government of India, *Indian Shipping Statistics 2020*, http://shipmin.gov.in/sites/default/files/ISS2020.pdf Last visited May 28, 2021).

[24]P Manoj, *No takers for Varanasi multi-modal terminal privatisation; waterways body scraps tender*, The Hindu Business Line (Feb. 09, 2020) https://www.thehindubusinessline.com/economy/logistics/no-takers-for-varanasi-multi-modal-terminal-waterways-body-scraps-tender/article30776169.ece

[25]P Manoj, *Government seeks to recast model concession agreement for PPP projects at major ports*, THE HINDU BUSINESS LINE (Feb. 10, 2020) https://www.thehindubusinessline.com/economy/logistics/govt-seeks-to-recast-model-concession-agreement-for-ppp-projects-at-major-ports/article30780702.ec

[26] The Major Port Authorities Act, 2021, § 27, No. 1, Acts of Parliament, 2021 (India).

that would be available at the Major Ports. In addition to this, the Act entails the constitution of an Adjudicatory Board[27] that would carry out residual functions of TAMP and would look into and adjudicate disputes that may arise between ports and the PPP operators, review the PPP projects that are stressed and provide recommendations to revive the project and alongside look into the complaints addressed with respect to the services that are furnished by the private/port operators involved in port operations[28].

While the government claims that this Act was introduced to spur private investments and provide greater autonomy to the ports in order to facilitate a faster decision-making process to boost the economic growth of the ports, some experts believe that this law has been devised to initiate privatization or strategic disinvestment.[29] The corporatization of ports under the Act would make the government reap profits and dividends arising from such ports. Additionally, the transition into port authorities would enable privatization of formerly operated state-owned cargo handling terminals by following the Landlord Port Model for handling port operations, primarily cargo related. In March 2020, the government's 67% stake holdings in Kamarajar Port Ltd (state-owned port run by a Company) was acquired by Chennai Port Trust for Rs. 2383 crore, thereby constituting it as a wholly-owned subsidiary.[30] The Finance Minister, during her budget speech, proposed a transitional shift, stating that the Major Ports would move from handling the port operations on their own to a model wherein a private partner would undertake to handle it, further stating that about seven operational projects of Major Ports that are worth more than Rs. Two thousand crores would be entered into on PPP mode in the Financial Year'22.[31]

In furtherance, apart from the aforementioned initiatives undertaken, the government also permits Foreign Direct Investment (FDI) up to 100% under automatic route for projects pertaining to construction and maintenance of harbours & ports in the country.[32] Additionally, flexibility in pricing is enjoyed by the private ports since the government permits the non-major ports to fix tariffs after consultation with the State Maritime Boards.

[27] *Id*, at *§* 54

[28] *Id*, at *§* 54

[29] P Manoj, *With proposed Port Authorities law, major ports may be privatised*, The Hindu Business Line (Feb. 07, 2021) https://www.thehindubusinessline.com/news/with-proposed-port-authorities-law-major-ports-may-be-privatised/article33776171.ece .

[30] N Anand, *ChPT acquires 67% stake in Kamarajar Port*, THE HINDU (Mar. 28, 2021) https://www.thehindu.com/business/chpt-acquires-67-stake-in-kamarajar-port/article31194570.ece

[31] Government of India, *Speech of Nirmala Sitharaman*, https://www.indiabudget.gov.in/doc/budget_speech.pdf (last visited May 28, 2021).

[32] Reserve Bank of India, Foreign Investments in India A.P. (DIR Series), Circular No.38 (Issued on Dec. 3, 2003).

Sectoral Dynamics of Privatisation, PPP & Corporatisation of Ports

Silent Burgeoning of the Private Sector Ports – Privatization

In the last quarter of the previous year, Adani's flagship Mundra Port became the busiest port in the country after overhauling JNPT in Mumbai.[33] In 2021, Mundra port proved to come out of staging recovery of the economy from covid that the Centrally handled JNPT could. Since the economic slump, Mundra port has consistently endeavoured to broaden the prevailing gap in container volumes of itself and JNPT. The F.Y. 2020 statistics enumerate 16% growth than the preceding year that Mundra Port has demonstrated by passing through 7.22 million Twenty Foot Equivalent Unit (TEU). While JNPT only handled 4.68 million TEU, on a decline of 7% than the preceding year. The Adani Group in the last couple of years, have been multiplying its strategy and has managed to undertake within its realm nearly half of the minor ports existing in the country. Cargo tonnage at minor private-owned ports witnessed a surge at 10.1% per year against government-owned major ports at 2.9% growth during the F.Y. 2019-20.[34] This upsurge in the port sector market, enabled the private players to further their way into the freight market. In March 2021, India had devised a production-linked incentive scheme that aims to accelerate exports and imports of intermediate goods. This target to almost double India's Gross Domestic Product (GDP) cannot be made possible unless there is considerable acceleration in the exports of the country. And it is in the midst of this crisis that Adani Ports seek to draw advantage from. The numerous minor ports in the country that run through the coastline, owned by the state governments or privately, constitutes nearly half of the cargo handling capacity. It is in these ports that much of the action lies. The last few years have estimated a volume growth of 0.6 times GDP at the Major Ports, while on the contrary, the Minor Ports have seen a growth of 1.3-1.4 times of GDP. Some experts forecast that the cargo volumes in Financial Year 22 would estimate 8% year-on-year the basis that would principally be led by the private ports in the country.[35]

The private ports have cannibalized traffic away from the major ports by offering mechanization and accelerated turn-around time along with enhanced productivity to the hinterland. While major ports in order to process imports take as long as 23 hours and for exports take around 77 hours, the private ports, on the other hand, have been able to turn around both exports and imports under 10 hours respectively.[36] Turn-around time is a chief performance indicator that covers the total time that a vessel undertakes between its arrival and departure. This slow movement of cargo has made India's logistical costs most expensive within the global sphere which comes at a cost of 13% of our GDP against an average of 7-8% in other developing countries. This

[33]The Maritime Executive, *Mundra Edges Out JNPT to Become India's Busiest Container Port*, THE MARITIME EXECUTIVE, https://www.maritime-executive.com/article/mundra-edges-out-jnpt-to-become-india-s-busiest-container-port (last visited May 28, 2021 at 16:19).

[34] India Special Correspondent, *India's private ports gain ground on public rivals,* THE JOURNAL OF COMMERCE ONLINE, https://www.joc.com/port-news/asian-ports/india%E2%80%99s-private-ports-gain-ground-public-rivals_20190429.html (last visited May 27, 2021).

[35] Abhishek Nigam, *The silent rise of India's private ports,* The Mint (Apr. 12, 2021), https://www.livemint.com/news/india/the-silent-rise-of-india-s-private-ports-11618153700290.html (last visited May 25, 2021 at 16:25)

[36]India Exim Bank, *Domestic Policy Constraint for exports in select sectors,* https://www.eximbankindia.in/Assets/Dynamic/PDF/Publication-Resources/SpecialPublications/Report-on-Domestic-Constraints-on-Exports-of-Selected-Sectors-new.pdf (last visited May 25, 2021 at 16:29).

wide disparity has caused much incongruity and imbalance thereby forming the basis of losing a competitive advantage in the global economic industry as a trading outpost. The turn-around time of export/import cargo at an Indian port accounts for an average of 84 hours against a global hub average of seven hours. This makes the average turn-around time 12 times slower against the global competitors like Singapore, China and Hong Kong.[37]

The private business held by Jindal, Jindal South West (JSW) Infra operates two ports – Dharamtar and Jaigarh along with the handling of eight terminals in Major Ports. JSW commenced this vertical under its business operations primarily to handle and target bulk dry shipments (coal, iron ore) for its steel and energy business, however, it has now grown its operations such that its third-party business has now become a quarter of its turnover. By the quarter end of the year 2022, JSW is expecting to expand its cargo handling capacity from 100-150 MT and subsequently, including gas and liquid handling capacities and thereafter, seek further acquisitions.[38]

Adani's Master Plan

If there exists any entity that has taken advantage of India's decline in port productivity and logistic cost, the name would be Adani. The last five years have embarked on a rather steady increase in port investments marking a benchmark high of $2.35 billion in 2020.[39] Mundra Port is the largest privately-owned port, handling cargo volumes of 144.4 MT in F.Y. 2020-21, Adani Group's APSEZ, Adani Ports and Special Economic Zone, made major acquisitions including the bankrupt Dighi Port in Maharashtra and Krishnapattam Port near Nellore in Andhra Pradesh.[40] In March 2021, the total ports operated by Adani became 13 when it acquired an 89.6% stake in Gangavaram Port (near Vishakhapatnam) at Rs. 5,558 crores.[41] Taking into purview the recent acquisitions made by Adani, APSEZ would handle approximately 30% of cargo operation in India.[42] The overall cargo capacity of APSEZ is way beyond the capacity handled by the local competitors. Some experts believe that Krishnapattam port would be the upcoming Mundra Port in the country by the next decade. According to Credit Lyonnians Securities Asia's *(CLSA)* analysis, Krishnapattam Port is India's with 6800 acres of land, has the potential to grow its volume by five times thereby potentially making it India's second-ranked private port.

Adani Group recently unveiled its plan on devising a framework for handling logistics, connectivity through road and rail and storage such that they are able to generate a

[37]NIGAM, *Supra* note 36

[38]JSW Infrastructure, *Annual Report 2019-20*, https://www.jsw.in/sites/default/files/assets/downloads/infrastructure/Annual%20Reports/2019-20/JSW-Infrastructure-Ltd_2019-20.pdf (last visited May 25, 2021 at 16:37).

[39]Ouail El Imran & Aziz Babounia, *Benchmark and Competitive Analysis of Port performances model: Alfeciras Bay, Rotterdam, New York-New Jersey and Tangier Med*, European Journal of Logistics, Purchasing and Supply Chain Management 28, (2018).

[40] Adani Ports and Logistics, *An Economic Gateway for the Nation,* https://www.adani.com/-/media/Project/Adani/downloads/PortBrochure.pdf (last visited May 25, 2021 at 16:43).

[41]Business Today, *Adani Ports to buy 58% stake in Gangavaram Port*, The Business Today (Mar. 23, 2021), https://www.businesstoday.in/current/corporate/adani-ports-to-buy-58-per-cent-stake-in-gangavaram-port/story/434628.html (last visited May 25, 2021 at 16:45).

[42]Adani Ports and Logistics, *APSEZ Announces FY20 & Q4 FY20 Results,* https://www.adaniports.com/Newsroom/Media-Releases/APSEZ-announces-FY20--Q4-FY20-Results (last visited May 25, 2021).

methodology for offering its customers a door-to-door service and subsequently, charge for such services a premium. Once the targeted freight corridors are fully commissioned, there will be a considerable decline in the logistical costs.[43] Adani's fast-paced movement in operations and logistics will further steal the traffic from the major ports leading to a devastating decline of government owned ports in the country further leading to revenue losses. This comes after Adani's strategy to improve service quality of its privately-owned ports that are located near to the neighbouring Major Ports (for instance, Mundra port is located near Hazira and JNPT, Dhamra Port is located near Paradip and Kuttupalli Port near Chennai). Further, ASPEZ has signed into entering into joint ventures with giant shipping partners like French Shipping Line Compagnie Maritime d'Affretment (CMA), Compagnie Generale Maritime (CGM) etc.[44]

An expert suggested that it would tentatively take around 3-4 years of uninterrupted GDP growth in order to uplift the overall average capacity utilization from currently prevailing 60-65% to a global average of 70-75% among the Indian ports.[45] Taking the aforesaid into view, in the meantime, private sector layers have been taking a ride on the ports with significantly prolonged concession periods because once the GDP growth hits the high tide, there would be considerably high supernormal profits because of higher entry barriers into the sector.

JNPT's Performance Predicament and Existing Landlord Model (PPP)

JNPT lingers on prime performance indicators as against the other large ports globally. The leisurely growth in cargo traffic handled by JNPT is faced by rapid competition by private competitors, especially on the country's west coast. As India thrusts towards becoming a global export hub, the public ports will have to increase operational efficiency. Port operations are by and large driven by container volume being handled, which is further dependent upon the size of the vessel which the port can lodge. However, the maximum available draft is 14m at JNPT as against international ports; Shanghai 20m, Rotterdam 24m, and even lower than Indian private ports (Mundra and Pipvav Port) which acts as a limitation in handling cargo volumes.[46] JNPT witnesses a higher berthing and idle time at the time when the ship is berthed accounting due to either personnel or equipment unavailability such as the crane utilization. Limited technological advancement coupled with higher turn-around and berthing time period has resulted in shipping line monopolies choosing private container freight stations neighbouring JNPT.[47]

Currently there exist more than 270 cargo berths across the major ports that are state-owned and are devised to enable cargo operations. The JNPT hosts a total of 34

[43] NIGAM, *Supra* note 36

[44]Our Bureau, *Adani Ports forms joint venture with France's CMA CGM group to operate box terminal*, https://www.thehindubusinessline.com/economy/logistics/adani-ports-forms-joint-venture-with-frances-cma-cgm-group-to-operate-box-terminal/article9665780.ece (last visited May 25, 2021 at 16:53).

[45]Jagannarayan Padmanabhan, Livemint, *The Silent Rise of India's Private Ports*, http://www.zuccess.in/uploads/news/APRIL-2021/1618282335975.pdf (last visited May 25, 2021).

[46]Aman Rathi, Ambesh Pratap Singh, Sundaravalli Narayanaswami, *Enhancing Port Performance: A Case of Jawaharlal Nehru Port Trust*, Pg 61, https://web.iima.ac.in/assets/snippets/workingpaperpdf/17904292902020-12-04.pdf (last visited May 25, 2021 at 17:00).

[47] SUMMIT, *Supra* note 15

berths, among which 11 are maintained and operated by private concessionaires and three along with a shallow drift facility is handled by the port authority.[48] In January 2020, the authorities and officials of JNPT observed a steady decline in their cargo traffic at the port and increasing competition arising out of strategic investments made by private players in the private ports which subsequently caused to create an exigency to regain the two chief cargo berths. This subsequently led to seeking Build, Operate, Transfer (BOT) operators for stressed cargo berths across major ports.

JNPT was one of the foremost ports in the sector after liberalization that offered berthing operations following a landlord model by entering into a PPP agreement. The landlord model is a hybrid business model devised under a public-private orientation wherein the port authority acts as a regulatory body, i.e., landlord; and the port operation that primarily includes cargo operations are maintained and undertaken by the private companies. It is only towards the last quarter of the 1990s and subsequently liberalization of the Indian economy, that the port sector steadily started transitioning from the conventional and long-established '*service model'* to a *'landlord model'*. However, the pricing regulations along with the revenue sharing guidelines have been an intrusion and cause of a dealbreaker for the private investors who are seeking a level playing field with the no-major ports involved in cargo operations or greenfield minor ports. One such illustration of the aforesaid scenario pertaining to unjustifiable revenue sharing model is, Dubai Ports World that is operated by Nhava Sheva International Contained Terminal (NSICT) at the JNPT, which was also a spearhead to the country's initial public-private-partnership model commencing its operations in 1999, had to wind down and depreciate its cargo handling operations from 1.2 million TEU to 0.64 million TEU in 2020. This contraction came after unpropitious royalty obligations that were held against the landlord port authority via a-vis the government.[49] It was only after the enactment of the new Port Act, that the government has made a historical amendment pertaining to pricing regulations to provide greater autonomy to operators and abolishing the threshold of age-old bureaucratic control.

Infrastructure enhancement and modernization for ports also include within its realm the adoption of aggressive landlord model adoption for facilitating effectiveness in berth operations in Major Ports. At present, in the major ports, nearly 28% of berths are under PPP/Captive mode, which also handles 51% of the overall cargo.[50] Maritime Vision India (MIV) 2030, identified 39 berths across major ports and stipulated the need for prioritization for the adoption of a landlord model. Long term strategic intervention for India creates a dire need for India's major ports leading to embracing the landlord model and further the process of private sector participation for attaining enhanced operational efficiency.[51] Hence, the Centre iterated the requirement of modernizing ports infrastructures through the PPP model across targeted zones including increasing the size of draft availability so as to allow maintenance and

[48]Bency Mathew, *India mulls privatizing stressed public cargo facilities to regain growth*, https://www.joc.com/port-news/international-ports/india-mulls-privatizing-stressed-public-cargo-facilities-regain-growth_20200114.html (last visited May 25, 2021).
[49]*Id.* at 49.
[50]Only operational berths considered as of FY20. IPA's Port Statistics report, Discussions with Major Port Teams
[51]SUMMIT, *Supra* note 15

handling of mega-ships, to maximize berth mechanization and fastening the landlord model adoption.[52]

Corporatization of Ports

The talk about Corporatizing the ports has been into consideration for over a decade now. In the 2015 Budget's speech, the then Finance Minister proposed that Ports in the public sector may need to endeavour towards attracting investments and coupled with this, leverage the huge unused land resources that are lying with them. In order to effectuate the aforesaid, the public sector ports would be motivated to corporatize and become companies under the Companies Act.[53] Later, in 2020, it was yet again proposed by the Finance Minister that a minimum of one major port would be corporatized and listed in the stock exchange. Kamarajar Port in Ennore was the only major port to have been incorporated as a Company under the Companies Act, 1956, thereby keeping its administration outside the purview of TAMP authorities. This aforementioned port would have been an ideal option for stock listing, however, the government in 2019 sold its 67% stake to Chennai Port Trust. The corporatization of ports entails with it a need to create a new law or suitable amendments in the existing law within the country.[54]

Unlike JNPT wherein individual berths are leased out on a BOT basis to the private operators, Port of Singapore and Rotterdam are eminent examples to understand how the global top port hubs handle their operations using a corporatized management system. For instance, in the case of Singapore Port, the government has established the Port of Singapore Authority Corporation (PSA Corp) that undertakes to provide port services, while the Maritime Port Authority (MPA) of Singapore performs only the regulatory functions. The port's performance is based on a 'profit-sharing model' that is distributed amongst all concerned persons involved, including MPA, PSA, shipping line, labour force, sub-contractor etc.[55] Further, funding made to the Port of Singapore is undertaken by the parent company, PSA International Ltd. that has holdings across the world. Currently, PSA is contributing as a strategic partner to international ports in China, Vietnam, India, South Korea etc. However, no such profile/portfolio is maintained by any port in India. Hence, turning the major ports into public limited companies would allow the ports more aggressively to enter into partnership agreements, give them access to private investments and open gates for foreign direct investment coupled with the factor of being free from tariff regulation. Despite the aforesaid, the government in the recent past has not released any executive order enumerating its decision to corporatize a port.[56]

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[52] SUMMIT, *Supra* note 15.

[53] BW Online Bureau, *Corporatisation Of Ports: What Does It Entail For India?*, THE BUSINESS WORLD http://www.businessworld.in/article/Corporatisation-Of-Ports-What-Does-It-Entail-For-India-/27-04-2015-80635/ (last visited May28, 2021 at 17:18).

[54] P. Manoj, *At least one major port trust to be corporatised and listed: FM*, THE BUSINESS WORLD, https://www.thehindubusinessline.com/economy/budget/at-least-one-major-port-trust-to-be-corporatised-and-listed-fm/article30710729.ece, (last visited May 25, 2021 at 17:2 3).

[55] Ankush Guha, *Privatisation of Port – Singapore and JNPT*, European Public Private Partnership Law Review 38 (2011)

[56] Dr. M.Bina Celine Dorathy, *Corporatisation of Major Ports in India- the game changer*, American International Journal of Research in Humanities, Arts and Social Sciences, ISSN (Online): 2328-3696.

The fate of India's Maritime Vision and the Prospective Contribution of Private Sector in it

Need for a Best-in-class Port Infrastructure in Attracting Private Sector

Covid-19 embarked on a catastrophic wave in handling cargo containers of petroleum, oil, lubricants (POL) and coal among other commodities. Despite the current capacity utilization of the Indian ports drifting at a mere 60% on account of the current covid scenario and economic slump followed by a depressed demand, the government is affirmative that this trend would soon reverse. The *recent Production-linked-initiative (PLI) scheme*[57] covers the Centre's Rs. 1.7 trillion worth amount across 10 sectors and aims to uplift India's manufactured commodities' export competitiveness. As a result of the growth of manufactured goods, India will have to progress towards moving the cargo faster. Consequently, the Ministry of Shipping announced a ten-year blueprint – *Maritime India Vision 2030* (MIV 2030)[58] that envisaged more than 150 initiatives thrusting on the port, shipping and waterway sector. The blueprint which has been drafted after several discussions with more than 350 public and private stakeholders enumerates a detailed phasing and implementation roadmap attributed towards different initiatives to ensure coordinated and accelerated growth along with devising policy and regulatory measures to substructure the aforesaid initiatives. The Prime Minister stated that India expects to invest in port infrastructure and enhancement projects up to $82 billion (6 trillion) by 2035.[59]

Indian ports overall traffic handling capacity has risen from 885 MTPA in 2010-11 to 1307 MTPA in 2019-20. According to a report, only nearly 25% of transhipment of Indian cargo[60] was handled by the Indian ports while the remaining were handled by the international ports. This per se leads to loss of potential revenue opportunities and increasing dependence on trade. Hence, enabling a framework for developing a Transhipment Hub in India would not only cover up for the prevailing losses in revenue but may also lead to undertaking the advantage of attaining an attractive global maritime position for trade routes in the future. Among the top 10 ports in the world, seven are Chinese Ports. With JNPT and Mundra port emerging in the top 40 port category[61], there is a noteworthy prospect for India to become a competitor in the port industry against other nations like, China, United States of America (U.S.), Singapore etc. by changing the current landscape through modernized port-led infrastructure. In furtherance, the global shipping industry is changing its landscape towards mega-size vessels. It has been accounted that, beyond 40% of the orders that have been booked for the next 3-5 years would be transhipped through vessels that are 20,000 TEU and above.[62] Ideally, a capsize vessel calls for a draft that is beyond 18m+, and the drafts at Indian ports range broadly between 7-20m. Hence, the aforementioned necessitates Indian ports to lay their emphasis on increasing draft availability keeping in view the

[57]PIB Delhi, *Cabinet approves PLI Scheme to 10 key Sectors for Enhancing*, https://www.pib.gov.in/PressReleasePage.aspx?PRID=1671912 (last visited May 28, 2021).
[58]SUMMIT, *Supra* note 15.
[59]HT Correspondent, *India to invest $82 billion in port projects by 2035: PM Modi*, The Hindustan Times (Mar. 2, 2021) https://www.hindustantimes.com/india-news/india-to-invest-82-billion-in-port-projects-by-2035-pm-modi-at-maritime-summit-101614696960498.html (last visited May 28,2021).
[60]IPA, *Supra* note 3.
[61] LLYODS, *Supra* note 4.
[62]Drewry Maritime Advisors Annual Review report 2020.

requisite cargo profile.[63] As vessels become specialized and bigger in size, the per day ship cost would increase in order to lessen the cost of transportation and hence, the total time spent by the ship at the port shall be reduced. The aforesaid approach in the industry has led to the world-class development of Mega Ports in the world in order to facilitate enhanced infrastructure for acceleration in operations and lower costs of operations (for instance; Port of Hedland, Port of Yangshan etc). The Maritime Summit 2021 upon evaluation identified 3 Mega Ports in the country based on their growth potential; Vadhavan-JNPT cluster, Deendayal Port and Paradip Port having an overall capacity greater than 3000 MTPA.[64]

Ameliorating Logistics Efficiency and Cost Competitiveness

The existing logistical system in the country fails to meet the international standards with respect to efficiency, costs, safety and sustainability. Consequently, this results in increasing the cost of ease of doing business and thereby accounting to increased prices of goods and services thereby discouraging the private players from entering into this sector. Adding to this, is the heavy reliance on the carbon-intensive mode of transportation leaving behind an environmental footprint. The report by the Confederation of India Industry noted that the current logistic cost of India is 14% and that of Europe and the U.S.'s cost lies between 8-10%. The supply chain and the logistic sector of India accounts as largest globally at $215, growing at 10.5% Compound Annual Growth Rate (CAGR).[65] Despite the aforesaid, India's supply chain faces challenges accounting to its deranged logistic modal mix, splintered infrastructure and cross-connectivity, coupled with a slender approach to adopting technology. There is an immediate need for the country to reduce its logistic cost to 7-8%. According to the World Bank's Logistics Performance Index India's ranking worsened from the former 35th rank in 2016 to 44th in 2018.[66] India in this regard is behind some of the leading and emerging economies such as Germany, China, South Africa and Singapore. The Ministry of Commerce and Industry with an objective to improve growth in the sector is under consideration to replace the *Multimodal Transportation of Goods Act*, 1993 (MMTG) with a *National Logistics Efficiency and Advancement Predictability and Safety Act* (NLEAPS).[67] The NLEAPS would endeavour to define several participants under the logistic sector and generate a light regulatory system. Hence an effectual execution of the Act would result in providing impulsion to trade and increase the country's ranking in the Logistics Performance Index (LPI) alongside Ease of Doing business.

The Ministry of Ports, Shipping and Waterways (MPSW) had addressed this issue of logistical efficiency and cost competitiveness by devising four focus areas including Cargo Modal Shift and Coastal Shipping, Port Industrialisation, Reducing Cost of

[63]SUMMIT, *Supra* note 15, at 14.

[64]PIB India, *PM inaugurates Maritime India Summit 2021*, https://pib.gov.in/PressReleasePage.aspx?PRID=1701886 (last visited May 28, 2021).

[65]Confederation of Indian Industry, *Reimagining India's supply chain- A bold vision for 2030*, https://www.adlittle.com/sites/default/files/reports/adl_indias_bold_vision_2030_v2.pdf (last visited May 28, 2021 at 17:50).

[66]The World Bank, Global Ranking 2018, https://lpi.worldbank.org/international/global (last visited May 28,2021).

[67]*National Logistics Efficiency Advancement Predictability and Safety (NLEAPS) Act in the making*, The Maritime Gateway, https://www.maritimegateway.com/national-logistics-efficiency-advancement-predictability-safety-nleaps-act-making/ (last visited May 28,2021).

Doing Business, boosting operational efficiency and evacuation at ports. India's freight-modal mix, i.e., the cumulative contribution of inland and coastal waterways towards transportation constitutes 6% against neighbouring country's modal-mix; Bangladesh – 16% and Thailand -12%, thereby calling attention to the scope of improvement in India.[68] Enhancement of water-based transport would considerably reduce logistical costs, since the aforesaid is cheaper than road and rail transports. The MPSW, in the last 4 years have undertaken to facilitate numerous initiatives for coastal shipping including the incentivizing of coastal berths, reduction in coastal traffic, moderation of cabotage reforms, provisioning green channel clearance etc. The initiatives resulted in 13% growth in the 2 years against a 4% growth rate in the preceding years in coastal shipping movement.[69] Despite the aforesaid, there is still a vast potential in this sector that is yet to be realized. Aggressive adaptation of port-led industrialization comprising of an integrated plan needs to be undertaken extensively in order to realize the true growth potential against competitive locations. India needs to shift its focus from a traditionally used self-development model to a *Co-development model*, which includes tie-ups with state government programs, private players etc. For instance, the government's endeavour to drive industrial development by the creation of Special Purpose Vehicles fashioned between National Industrial Corridor Development and Implantation Trust (NICDIT) & State Government shall be approached by following co-development model[70] by introducing a private co-developer succeeding an appropriate revenue model. Additionally, the government has devised plans for promoting evacuation via enhanced E2E connectivity via rails, roads, waterways coupled with improving port performance against world-class standards for container and bulk terminals. Hence, by benchmarked targeted levels in the initiatives undertaken by the government, India is expecting to save nearly up to INR (Indian rupee) 17000-20000 Cr in inventory holding costs and INR 9000-10000 Cr. in logistics costs per annum coupled with, port-led industrialization that has approximately. INR 10000+ Cr. value by unlocking the potential for Major Ports.[71]

Revolutionize New Models in Public-Private-Partnership Agreement

With the recent endeavours undertaken by the government over the last decade, one cannot rule out that India did witness an increase in private participation in the Maritime Port sector over 15 years. 30% berths across ports function under the PPP model.[72] However, the existing port statistics and private players disputes/grievances suggest a need for the port sector to further strengthen its existing agreements and drive further ahead towards future acceptance of PPP in other port operations. Major Port Act, 2021[73] acts as a landmark step from moving from a '*service model'* to a '*land-lord model'* by opening gates for private stakeholders. Taking the aforesaid Act into purview, the government now needs to propose frameworks to strengthen the existing Model Concession Agreement and introduce new modes of PPP in order to enable investments by the private sector in this sector. The Centre should revise the existing MCA to facilitate and improve the contracting process and add measures to further

[68] SUMMIT, *Supra* note 15, at 66.

[69]Ministry of Ports, Shipping and Waterways Annual Reports.

[70] SUMMIT, *Supra* note 15, at 96.

[71] IPA's port statistics report FY19-20; TRT considered for Major Container Ports (JNPT), Chennai, Cochin, Vishakapatnam, and V.O. Chidambaranar); SUMMIT, *Supra* 15 Page 101.

[72] SUMMIT, *Supra* note 15 at 120.

[73]The Major Port Authorities Act, 2021, No.1, Acts of Parliament, 2021 (India).

attract the private sector investments. Additionally, new models of PPP shall be used to promote sectoral PPP for different infrastructure and services across ports. These models may extend to berth operations, equipment management, Industrial land services management with respect to warehousing, yard management, dry-docking and ship repair, dredging etc. For instance, the annual dredging cost in Kolkata major port alone is 300 crores. Global ports have adopted various PPP models to facilitate operations at the ports. Top nations in the maritime sector have demarcated a detailed strategy for PPP that is customized to suit the needs and requirements of ports. Government should facilitate a tier-wise strategy to enable movement to landlord model stretched across 10-15 year master planning for the Indian ports. Unlike the existing MCA that gives form to BOT, new MCAs shall be through into existence that facilitates models like *Equip, Operate and Transfer* (EOT) *Model and Operate and Maintain* (O & M) model on fees or annuity basis.[74]

India's maritime vision to increase port capacity, ship repair and building coupled with hinterland connectivity would need enormous funds that can be realized by private sector capital in the sector. This need for fiscal support and financial resilience should be supported by a regulatory framework and necessary policy coupled with technological advancement and requisite skill development. The MIV blueprint envisaged the proposal to develop a *Maritime Development Fund* (MDF) to ease raising long term funds in domestic and international markets.[75] Subsequently, these funds would be given as loans at competitive rates to the maritime sector, which could further be utilized through PPP Agreements for establishing new ports and improve the capacity of existing ports.

The port industry demonstrated a pivotal role in contributing towards India's GDP and overall comprehensive economic growth. India envisions to be a global port hub in navigable waters and compete against international ports in the global trade business. The past two decades witnessed a considerable increase in the participation from the private sector, however, despite the aforesaid, India's F.Y. statistical reports unveils our failure in realizing India's true economic value. A more intrinsic and comprehensive integrated approach shall be undertaken by the government in initiating greater investments by the private sector and participation by the private entities and corporations in working towards holistic development in port infrastructure and meeting international trade demands efficiently and cost-effectively. In the last five years, the Central Government has continually contributed to this initiative by bringing several legislative developments into force, however the prevailing bureaucracy in the system, existing models of PPP and lack of efficient port infrastructure and hinterland connectivity has discouraged the private players from entering into this sector. It is up to the country to decide if it should triumph over west coast growth led by Adani in meeting international benchmarks or loathe over the monopolistic rein led by only one entity parenting about 13 private ports across India. The aforesaid analysis by the Authors, demonstrates the failure of the Executive in establishing an investor-friendly environment for the private players in the port sector. The year 2021 embarked on a robust master plan released by the Central government entailing India's maritime vision for best class port infrastructure and logistical efficiency in attracting future PPPs in the

[74] SUMMIT, *Supra* note 15, at 136.

[75] Apace Digital Cargo, *Maritime India Vision 2030 plan includes new port regulator & development fund*, https://apacedigitalcargo.com/maritime-india-vision-2030-plan-includes-new-port-regulator-development-fund/ (last visited May 28, 2020 at 18:02).

sector. The blueprint elucidates a comprehensive targeted benchmarked approach in realizing India's goals for an investor-friendly environment and the authors hope for the blueprint to succeed into rationality and India to become a major economic port hub.

Conclusion

The port industry demonstrated a pivotal role in contributing towards India's GDP and overall comprehensive economic growth. India envisions to be a global port hub in navigable waters and compete against international ports in global trade business. The past two decades witnessed a considerable increase in the participation from the private sector, however, despite the aforesaid, India's FY statistical reports unveils our failure in realising India's true economic value. A more intrinsic and comprehensive integrated approach shall be undertaken by the government in initiating greater investments by the private sector and participation by the private entities and corporations in working towards holistic development in port infrastructure and meeting international trade demands efficiently and cost-effectively. In the last five years, the Central Government has continually contributed to this initiative by bringing several legislative developments into force, however the prevailing bureaucracy in the system, existing models of PPP and lack of efficient port infrastructure and hinterland connectivity has discouraged the private players from entering into this sector. It is up to the country to decide if it should triumph over west coast growth led by Adani in meeting international benchmarks or loathe over the monopolistic rein led by only one entity parenting about 13 private ports across India. The aforesaid analysis by the Authors, demonstrates the failure of the Executive in establishing an investor-friendly environment for the private players in the port sector. The year 2021 embarked on a robust master plan released by the Central government entailing India's maritime vision for best class port infrastructure and logistical efficiency in attracting future PPPs in the sector. The blueprint elucidates a comprehensive targeted benchmarked approach in realising India's goals for an investor friendly environment and the authors hope for the blueprint to succeed into rationality and India to become a major economic port hub.

A Contextual Audit on the Status of Renewable Energy in India

Mr. Swarnendu Chatterjee[*] and Ms. Chetna Alagh[**]

ABSTRACT

"If it weren't for electricity, we'd all be watching television by candlelight"
- George Gobel

A shift to a cleaner environment and the use of renewable energy acts as an investment in the future. Renewable Energy mainly includes generating energy using wind power, solar power, biomass, hydropower, biofuels or other various appliances that are more energy-efficient and promotes a green environment. Over the past many years, India has been stepping in the battle of creating a green India through the use of Renewable Energy. India has been making different strides to increment and lift the utilization of sustainable or non-customary assets of energy fundamentally for power's creation among numerous uses with various changes made in the laws further promoting progressiveness in this sector. Though the concept of the use of renewable energy in India is still under the developing phase the Government of India has been putting forth cognizant attempts to constantly grow in this area. This paper provides a brief insight into the various developments made by India in the area and its current status along with a detailed analysis of the various laws and enactment in India related to renewable energy.

Key Words: Renewable Energy, Green Environment, Solar Energy, Hydropower, Climate Change

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Introduction

When we enter into a dim room, we scatter the haziness by a flip of a switch. A little reflex activity that comes as natural to us. In the debate concerning energy and climate, no issue is more combative than how much the developing economies ought to depend just on non-petroleum derivative resources and energy proficiency to fulfil their increasing energy needs and requirements. The best example of this discussion can be outlined by how much India faces the issue of focusing on a low-carbon economy while simultaneously immovably building up a renewable energy sector through which it intends to bring power admittance to every one of its residents, including 300 million individuals at present lacking access even to one electric light bulb. This trouble emerges because the pernicious externalities of "dull" electrons can't be assessed and merit supplanting with "green" electrons. We neglect to concede how much power is disparaged. As a country, we are seeing struggle in our energy area today, even though we are the third biggest energy maker on earth and positively even a net energy exporter, still the rural districts our country feels the shortage of resources.

Use of Renewable Energy essential for Sustainability

The use of renewable energy and sustainable power is one of the best alternatives that can be implemented worldwide to fight off the most exceedingly awful impacts of rising temperatures. That is because sustainable power sources, for example, sun based and wind-based energy, do not discharge carbon dioxide or different substances that drain the ozone layer and lead to an Earth-wide temperature boost, known as global warming.

Timely progress from a petrol-based economy to clean energy stays a test for our age, both as far as speed of progress and vector India has been making a plethora of strides to increment and lift the use of renewable, sustainable or non-conventional resources of energy for the production of electricity among the many uses.

India is the seventh-largest country in the world in terms of geographical area.[1] The country is the fifth-largest energy economy in the world has an abundance of energy resources be it renewable or non-renewable.[2] Not only this, India also ranks third on the level of renewable energy and is the only country in the world to have had a particular ministry for the advancement and the development of renewable and sustainable resources that is Ministry of Non-Conventional Energy Sources (MNES) which was later renamed the Ministry of New and Renewable Energy.[3] Coal, a non-renewable source is majorly used for the production of energy in India. However, due to reasons like over-population, industrial and technological development and inordinate utilization of

[1] "Largest Countries in the World (By Area)", World meter (July 13 2020, 07:00 pm) https://www.worldometers.info/geography/largest-countries-in-the-world/

[2] ETEnergyWorld, "India is the world's fifth-largest energy economy; Ranked 3rd on renewable energy", Economic Times (July 13 2020, 07:15 pm) https://energy.economictimes.indiatimes.com/news/renewable/india -is-the-worlds-fifth-largest-energy-economy-ranked-3rd-on-renewable energy/75581107#: ~:text=Terms%20%2 6%20Conditions, India%20is%20the%20world's%20fifth%2Dlargest %20energy%20economy%3B%20Ranked %203rd, with%20a%20score%20of%206.3.

[3] Peter Meisen and Eleonore, "Overview of Renewable Energy Potential ", Global Energy Network Institute http://www.geni.org/globalenergy/library/energytrends/currentusage/renewable/Renewable-Energy-Potentialfor-India.pdf.

resources, the availability of non-sustainable resources is on decay. In addition, the utilization of a large portion of these resources is destructive for the climate as they are significantly liable for contamination and pollution. These reasons have motivated the executive Government as well to gradually begin with the broad utilization of renewable sources for the production of energy.

In the 1970s, Indian law, strategy and technique have consistently anticipated that climate protection should advance established standards. Indian law is known for its reformist guard. The outing from environment security to a more thorough manageable turn of events, and now the utilization of renewable energy[4], is a quantum jump in India as, "a reformist reality in progress." Throughout the world, the idea of practical advancement presented by the 1987 Brundtland Report turned into the premise of the United Nations Framework Convention on Climate Change (UNFCCC) of 1992 and was additionally endorsed by the United Nations Framework Convention on Climate Change (UNFCCC) India, as a signatory to the UNFCCC, ratified the Paris Agreement with 194 different nations in December 2015. It talked about the danger of irreversible environmental change and more complete data on the requirement for all nations to move towards making clean energy to alleviate hazard.[5]

The use of, renewable energy has far more than to just provide a green environment. It also creates job opportunities, expands energy access in the developing nations, lowers energy bills and makes power grids more resilient. The use of clean energy does contribute to all these factors but can also set new records for electricity generation with the use of wind, water or solar-based settings over the years. By and by, India has introduced a limit of 16500MW of renewable grid-connected power. Sustainable power potential in India can be increased to a few times more than the current potential. India has hushed up forthright about advancing the utilization of renewable energy sources considering the availability of resources along with the growing population in the country. With the advancement, lawful issues, laws and cases have also come dealing with energy sources.

Nations worldwide have perceived the requirement for moving to a more environmentally friendly source of power and energy, as non-renewable sources of energy won't suffice for long. There can be no more excellent option than the use of renewable sources for a better future. India is starting to zero in on renewable energy sources and is one of the main makers of renewable energy in the world, intending to transform itself into a green environment country. India and France were the major powers behind the advancement of the International Solar Alliance (ISA), which intends to advance sunlight-based energy across the planet. The world is looking for new, perfect and boundless energy wells for a superior and better future.

[4] "Largest Countries in the World (By Area)", World meter (July 13 2020, 07:00 pm) https://www.worldometers.info/geography/largest-countries-in-the-world/.

[5] ETEnergyWorld, "India is the world's fifth-largest energy economy; Ranked 3rd on renewable energy", Economic Times (July 13 2020, 07:15 pm) https://energy.economictimes.indiatimes.com/news/renewable/india -is-the-worlds-fifth-largest-energy-economy-ranked-3rd-on-renewable energy/75581107#: ~:text=Terms%20%2 6%20Conditions, India%20is%20the%20world's%20fifth%2Dlargest %20energy%20economy%3B%20Ranked %203rd, with%20a%20score%20of%206

A couple of major challenges for India and the world that can arise are; how quick utilization of renewable resources can be made and how quickly the inter-related clean energy advancements can take place and how much would they be able to alleviate the increment in petroleum derivative use. As the second-biggest coal-creating and - burning-through country on earth and the third-biggest producer of ozone-depleting substances, India's progress from carbon-serious resources is a basic front in the worldwide battle for change of environment.

Outlook of Renewable Energy in India

As the world wrestles with the undeniably obliterating effect of environmental change generally brought about by human-centric formative developments, the need for renewable energy comes into play. Renewable energy (environmentally friendly energy) is growing to be a significant lift in accomplishing the country's economic advancement objectives.

India is taking ambitious measures to advance the reasonable utilization of power and renewable energy in the country. In front of the United Nations Framework Convention on Climate Change COP21-2015, India declared its expected National Decision Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC), clarifying its natural exercises since 2020. In 2019, the nation was positioned as the fourth most alluring renewable energy market on the planet. India's INDC is growing its objective of presenting a gigantic endless force cap of 175 gigawatts (GW), a renewable energy limit by 2022. Further, this aim was raised to a limit of 227 gigawatts (GW) for 2022. By 2027, we will likely arrive at our renewable energy limit focus of 450 gigawatts (GW).

The nation is starting to focus on renewable energy sources, one of which is the hydroelectric force. It is creating power utilizing the force of streaming water. India has 12 significant hydropower plants in different states like Bihar, Punjab, Karnataka, Uttar Pradesh, Uttarakhand, Sikkim, Gujarat, Uttarakhand, and Andhra Pradesh. The public hydroelectric limit is around 1,500 MW. Wind energy, which is viewed as one of the cleanest and generally innocuous to the biological system, is likewise created in India.[6] The fifth biggest breeze ranch on earth will be introduced in India with a cap of 3,595 MW and will approach around 45,000 MW of wind power in the country. Not just this, the nation is additionally dedicated to utilizing sun-based energy as the majority of the states in India encounters sunny days. 20,000 MW is the assessed capability of sun-based force in India and this specific force source fills in as one of the biggest force sources in India.

To boost and advance sustainable energy in India, 'MUST RUN' was conceded to environmentally friendly power plants aside from biomass-based force plants under the Indian Electricity Grid Code, 2010 (IEGC). 'Must Run' means that evacuation of energy from sunlight based and wind power plants ought not to be curtailed (i.e., the discontinuance, stoppage or reduction of offtake of power from a generating station) for factors other than grid security, the safety of equipment or gear. This has contributed considerably to the astounding development of the renewable energy area in India.

[6] Purohit P, Michaelowa A. CDM potential of SPV pumps in India. Renewable and Sustainable Energy Reviews 2008; 12:181–99.

With India becoming more predominant on the world stage, it has been more dynamic in worldwide environmental change agreements and developments. Regardless of quick monetary and economic development, the nation faces numerous formative difficulties and human security concerns: India is as yet home to 33% of the world's poor, has the world's biggest population of individuals without admittance to electricity, and the normal GDP per capita is well beneath the global norm. India's energy area has developed quickly to satisfy expanding needs, supported by population increment, urbanization, and industrialization. In addition, the World Health Organization appraises that a portion of the world's best 20 most air contaminated urban areas is in India. Henceforth, India faces a one-of-a-kind triple test of meeting developing per capita energy interest, fighting pollution, and growing renewable energy in the country.

Laws And Policies Governing Renewable Energy in India

The condition of the environment is degrading day by day. In India, the condition worsens daily - overpopulation, global warming and more such environmental problems are seen being faced in the country. The curbing of these issues is a necessity for society. In addition to this, sustainable development and the use of renewable energy for further creating a green environment needs to be made the ultimate goal. The upcoming generation has the right to enjoy the environment as much as we do. To ensure this possibility, there are laws for every aspect of the environment. The adaptation of these laws and principles along with the legislation became necessary for saving the environment.

The requirement for the enactment and implementation of the Electricity Act, 2003[7] which codifies and regulates the law regarding generation, trading, transmission, distribution of electricity, further including the tariff for sale of electricity was felt by the Central Government, because of the progressing financial changes in the country and also, the changes in the electricity sector that were taking place in the different states. The terrible working of the State Electricity Boards (SEBs), which were framed under the IEA, 1910, and the ESA, 1948, constrained the government of India to draw out a uniform and bound together law to deal with the flow needs of the force area, in the space of the age, transmission, exchanging, and dissemination of power.

The Act of 2003 was the main institution that managed the utilization of renewable energy sources to create power. This act was an important policy reform unveiled by the Government of India for looking after the country's power sector. The act provided captive renewable power plants for the buildings, that is the use of power for personal use through the independent generation of power. This act also formed various specific policies that included incorporate special tariffs, renewable purchase obligations and tradable sustainable power declarations certificates.

Section 61(h)[8] of the Law arranges the State Energy Regulatory Commission (SERC) to enact and elevate associations with the power matrix produced from renewable energy resources through cost commitments. Further to this, section 86(1)(e)[9] makes it

[7] The Electricity Act, 2003
[8] The Electricity Act, 2003, s.61(h)
[9] The Electricity Act, 2003, s.86(1)(e)

compulsory for the State Electricity Regulatory Commissions (SERCs) to determine a base degree of procurement commitment of sustainable power.[10]

The institutional construction under the Electricity Act, 2003 provides for the Regulatory Commissions, Appellate Tribunal of the Electricity Appeals Court (APTEL). In 2019, the Supreme Court stated that it would not meddle with the APTEL's political race, or the appointment of a regulatory board of trustees set up under the Electricity Law, except if certain lawful examinations are presented. Further, clarifying that it would not meddle with issues, for example, tariff assurance that doesn't include inquiries of law.[11]

The endeavors made for the commercialization and industrialization of the utilization of renewable energy were upheld by the National Energy Policy of 2005 which was formulated in accordance with Section 3 of the Electricity Act of 2003.

As per the National Tariff Policy, the Central Energy Regulation Commission (CERC) has set up a yearly feeder tariff for associations that took care of the grid-network of renewable energy resources, to ensure returns along with full recovery during the loan repayment period for the full useful life which is equivalent to a tariff that has been levelled. During the eleventh long term Plan that was from 2007 to 2012, different motivators programs for sustainable types of energy were executed to empower renewable grid connectivity.

The Indian Judiciary has managed and dealt with issues concerning renewable energy resources. In 2015, the Supreme Court did come up with a decision and ruled that all enterprises will come ready for targets concerning sustainable sources of energy or in any case get fined. This landmark Judgment commands enterprises having captive power plants get a decent segment of their energy prerequisites from renewable sources of energy. This decision likewise engaged the state power controllers and related offices to force punishments on those associations which neglect to follow the orders made by the Supreme Court.[12]

In 2018, the Hon'ble Supreme Court had set aside the cancellation of a Power Purchase Agreement between energy producer Renew Power and the Madhya Pradesh Government. In this case, the firm had won the bidding, at the rate of Rs. 5.45 per unit. For the same, a termination notice was issued by the Madhya Pradesh Power Generation Corporation. It was then challenged by the firm in High Court. The termination was disallowed; the matter was then taken to the Supreme Court. A landmark judgement was passed in which it upheld the decision of the High Court and cancelled the termination. This judgment had set a reliable example for the renewable sector. It was also stated that this sector requires Rs. 6.6 lakh crores as an investment in the upcoming 5 years to reach the desired goal. As the cancellation of the Power Purchase agreement causes loss to the renewable energy sector as it requires much investment. This can be counted as a step

[10] Aparna Sawhney," Renewable Energy Policy in India: Addressing Energy Poverty and Climate Mitigation", Research Gate (June 12 2020,02:00 pm) https://www.researchgate.net/publication/275146685_Policy_Monitor_Renewable_Energy_Policy_in_India_Ad dressing_Energy_Poverty_and_Climate_Mitigation

[11] Appellate board for electricity tribunal, APTEL https://aptel.gov.in/about-us.

[12] Deepak Sriram Krishnan, "India's Supreme Court Reinforces Renewable Energy Targets for Industry", World Resources Institute (June 13 2020, 08:00 pm) https://www.wri.org/blog/2015/06/india-s-supreme-courtreinforces-renewable-energy-targets-industry.

towards saving the industry from unbearable losses. Also, the delay in the process leads to losses. That is why it is important to maintain the decorum so that no further losses are incurred. This can also be seen as an advantage to the goal that has been set for the year 2022.[13]

While the development and strategies are praiseworthy, however, they face genuine difficulties and challenges. Power is the subject of asynchronous rundown inside the Constitution of India, similarly as the state assembly has a similar ability to set up enactment regarding this matter. From that point forward, with regards to renewable energy, there has been an absence of fundamental coordination, control and equilibrium in the execution of systems. Due to the back-and-forth between the central and state governments, engineers deal with moderate and operational issues. This happens as a hindrance to the soul of the local area and gainful federalism and further leads to obstacles to accomplishing the objectives set by India corresponding to the country's renewable energy submitted to the UNFCCC.[14]

Key Energy Sector Institutions in India

1. **Ministry of New and Renewable Energy (MNRE)** - The Ministry of New and Renewable Energy (MNRE) is answerable for improving and building up India's way to deal with renewables in power, transportation and temperature. The National Solar Energy Institute and the National Energy Institute are under the locale of the Ministry of New and Renewable Energy. The MNRE additionally covers bioenergy for power. The MNRE likewise gives monetary help to those engaged with the economic power area. The Indian Renewable Energy Development Agency (IREDA) reports to the MNRE, which goes about as a non-bank monetary foundation to advance harmless ecosystem power projects.
2. **Ministry of Power (MOP) -** The Ministry of Power oversees and deals with the energy spaces of the country. It fuses the utilization of renewable energy for power. The Central Energy Agency (CEA) is a fundamental manual for the MOP. The MOP is likewise liable for an assortment of significant projects, for example, the UDAY program, which it desires to help DISCOM and offer monetary help.
3. **Central Electricity Regulatory Commission (CERC)** - The board of trustees oversees tax for age bunch associations and broadcast organizations. CERC is a significant director of the Indian military area and is a lawful body working as a quasi-judicial (semi-legal) state under section 76 of the Electricity Act of 2003. It likewise allows trading licenses for transmission and commercialization.
4. **Ministry of Petroleum and Natural Gas (MoPNG)** - The Ministry of New and Renewable Energy will go about as liable for figuring arrangements to advance the exploration and improvement of development for the turn of events and formation of biofuels. The Ministry of Petroleum and Natural Gas is liable for proceeding to create and execute biofuels in its evaluating strategy.
5. **Solar Energy Corporation of India (SECI)** – It is an association of the Ministry of New and Renewable Energy of the Government of India, set up to assist convey with a trip to the National Solar Mission. Liable for doing different MNRE plans,

[13] Deepak Sriram Krishnan, "India's Supreme Court Reinforces Renewable Energy Targets for Industry", World Resources Institute (June 13 2020, 08:00 pm) https://www.wri.org/blog/2015/06/india-s-supreme-courtreinforces-renewable-energy-targets-industry.
[14] Ibid.

for example, sunlight-based park arranging and network-related sun-based rooftop schematic arrangement.

Development of Sources of Renewable Energy in India

The government of India has concocted different ways to deal with make feasible energy sources in the country. These methodologies and approaches are for the most part financial, monetary inspirations or one-of-a-kind commitments pointed toward fortifying renewable energy in the country. The methodology keeps on being executed after arriving at the objectives set in 2022. Key measures are overseen by the Ministry of New and Renewable Energies (MNRE). A portion of India's ways to deal with renewables and a portion of its money related measures are illustrated underneath-

1. Foreign Investment Policy: This strategy assists foreign bankers to start joint endeavours with Indian associations for monetary or proficient collaboration and to dispatch projects dependent on renewable energy. The RBI has permitted Indian associations to acknowledge hypothesis without advance endorsement from the RBI to set up a renewable energy-based organization. Likewise, the Foreign Investment Execution Authority (FIIA) was set up to decipher the endorsement and execution of Foreign Direct Investment (FDI).
2. Industry policy**:** The Ministry of New and Renewable Energy (MNRE) has created techniques to advance little, medium and small-scale organizations committed to the get-together and update of different sorts of renewable frameworks. Freedom from Central Electricity Authority (CEA) isn’t needed for power projects up to Rs 1 billion. The Government of India additionally permits monetary relaxations to renewable energy-based tasks for a period of five years. Concessions on Custom Duties are also provided for environmentally friendly power hardware and extras. Privately owned businesses can set up organizations that work as concessionaires or force age organizations. The MNRE and the Ministry of New and Renewable Energy Development of India have set up different financial and monetary inspirational powers for small businesses. Restricted scale businesses include organizations whose interest in fixed resources for plant and gear doesn't surpass Rs. Ten million.
3. Joint Venture Policy**:** The government of India permits international investors to embrace joint endeavours not just in collecting feasible energy hardware and gear, yet additionally in dispatching renewable energy-based exercises in the country. These joint ventures will assist unfamiliar organizations with entering the Indian market, and Indian organizations will likewise profit from new methods and systems for international associations.

Notwithstanding every one of these approaches running after the headway of renewable energy in India, the Government of India feels the requirement for exploration, advancement and progress in the exercises of the renewable energy area, which will bring about extra energy sources. ***Commission for Additional Sources of Energy*** (CASE) was set up determined to advance improvement in the field of renewable energy with better examination and strategy work. Essentially, the Ministry of Renewable Energy was set up in India, making it the only country in India that offers exceptional administrations for the headway and advancement of renewable resources.

Cabinet Committee on Economic Affairs (CCEA) additionally endorsed up to $6.5 billion in monetary help by 2022 to advance sunlight-based energy use among the farmers

of the nation. The Atal Jyoti Yojana (AJAY) Stage II program was additionally set up in 2018 to offer monetary help for the establishment of more than 3 million sun-based streetlamps in specific regions. MNRE reported its National Wind-Solar Hybrid Policy in 2018, an immense structure identified with the photovoltaic cross-drain system dependent on wind-sun powered energy for ideal and profitable utilization of land and transmission framework. The work has progressed. Furthermore, the public authority has additionally planned a Safeguard Duty (SGD) on sunlight-based boards to advance the homegrown creation of sun-based cells in the country.

Economic Sanctions and Covid 19- Impact on Renewable Energy in India

The Prime Minister of India as of late introduced India's biggest solar power plant of a limit 750 MW in Rewa, a little area in Madhya Pradesh, declaring India's capacity to be a worldwide environmentally friendly power energy centre universally. It is explicitly complimenting a direct result of its planning during an influx of cynicism in the energy area.[15] This comes as a demonstration of Indian's green energy potential and its committed energy strategy. In recent times, today the Renewable Energy Industry is taking on conflicts on two fronts, one with the COVID-19 pandemic and the other against reaction to Chinese hostility through monetary measures which influences the creation of the area harshly.

The COVID-19 pandemic has made the world reconsider and change its approaches. Amid the entirety of its detestations, the inauspicious imprint which it has left on the economy is overwhelming and the Energy area isn't barred from the devastation of the infection. The Coronavirus pandemic is discouraging financial development on the planet.[16] Every nation is managing its effect according to its abilities and prerequisites. Energy area has likewise been antagonistically affected. In Italy, a 20% decrease in costs is being noticed. As indicated by a report in 2020, India has effectively seen a decrease in demand for power by 25-30% in the month of May-June, which whenever combined with decreased assortment may antagonistically affect conveyance organizations by making a money hole of around Rs 40,000 crore and it can turn out to be much more dreadful.

Nuclear energy stations are running at a low limit without industrial demand, while the portion of renewables on the grid has been expanding, for the most part, because of the "must-run" status. In certain states, India's framework administrators are as of now running a power framework with extremely high portions of renewables. The present circumstance is as yet proceeding with where more established force plants are as yet in need to shut down for maintenance and repair to meet new natural environmental necessities.

In this tough time, while facing the outbreak of a pandemic, India has also paved a way to reach new heights in the renewable energy sector. Reserve Bank of India has taken

[15] Sidharth Yadav "Solar energy will play a major role in achieving Atmanirbhar Bharat, says Modi".The Hindu (JULY 10, 2020 13:05 IST) https://www.thehindu.com/news/national/other-states/india-most-attractive-global-market-for-clean-energy-modi/article32040039.ece.

[16] "India's power demand falls over 25 pc to 125.81 GW on April 2." The Economic Times (Apr 03, 2020, 03:22 PM IST) https://economictimes.indiatimes.com/industry/energy/power/indias-power-demand-falls-over-25-pc-to-125-81-gw-on-april-2/articleshow/74965504.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst.

some of the fiscal measures by providing a three-year moratorium and cut of rep rate to 4.4%. Also, MNRE has extended the dates for manufacturers in contracts by keeping in mind the force majeure clause. This will help in reaching the vision that has been set for the year 2040.[17] There has also been an increase in the share of renewable energy by 10% which will also pace a way for more supply from renewables and will motivate the industry to perform better.

Not only the pandemic has affected India but it has been progressively difficult for the country due to our neighbour China and the strategy which MEA in intelligibility with MNRE has taken in. The strategy decides upon either to check the unloading of cheap Chinese solar-powered items in India or in national interest inferable from how the situation developed as of late. It is relevant to note here that China practically controls the whole "esteem chain" from silicon to a module and it supplies practically 85% of solar energy-based products to the world, and thus exchange with China holds extraordinary stakes.[18] These cheap products and resources have been one of the reasons that development and advancement in the country have taken place over the years at a fast pace. The cost of sun-based energy had decreased from Rs 17 when in 2010 first National Solar Mission was dispatched to Rs 2.44 in the most recent bid. India in August 2020, declared to force 20-25% of customs obligation on solar energy modules and products and 15% on cells, making it 40% for both. Safeguard obligation was additionally forced by the ministry of 25% on import of Solar Panel from China and Malaysia as domestic players were seen are at a disservice and can't rival unfamiliar market in India's beginning industry as these imports have had serious Injuries to domestic players and were in the public premium to force the safeguard obligation. However, the ministry did provide with exemption in the form of "pass-through" to the manufacturers, Chinese imports for the use of public solar projects were exempted from duty in the power purchase agreement signed before the implementation of the obligation. This step was no benefit to the domestic producers though as they will not be able to receive any orders for the next one or two years, potentially adding more problems to their work amidst the coronavirus pandemic.

Due to these sanctions industries in the form of decreased import of solar PV and has increased economic burden on foreign exchange. It has also affected the domestic developers and landed them in trouble as at the time the business is just attempting to recuperate from the shock and the downfall caused due to the pandemic. To guarantee constant advancement in the development of renewable energy, grid connection and financial stability of the power organizations are the basic components for change required at this hour. We need to provide escape velocity to the sector and these sanctions dealing with the trade business as they are certainly not aiding the cause. India is a country that can upgrade its energy container and secure its energy access and be the head of efficient power energy globally, making India, as PM the said 'aatmanirbhar', i.e., Self-Reliant in the energy area is the need of the hour.

[17] Ashish Khanna, "Renewable Energy "New Normal" and Impact of Covid-19" (Apr 15, 2020, 02.20 PM IST) https://energy.economictimes.indiatimes.com/energy-speak/renewable-energy-new-normal-and-impact-of-covid-19/4167.

[18] Express web desk "The world failed to help India fight the Covid crisis, rich countries should take more responsibility: US advisor Dr. Fauci" (April 28, 2021) https://indianexpress.com/article/india/world-failed-to-help-india-fight-covid-crisis-says-anthony-fauci-7292486/.

Energy Market Reforms that are Important than Ever for India

As open and private hypothesis is essential to India's energy area, which is at the core of the economy, there is a pressing requirement for more genuine power market changes to create and develop.

There is a dire need for a more profound power market reforms are developing and growing, as both public and private speculation is important for India's energy sector, which is itself at the core of the economy.

1. **The International Energy Agency (IEA) recognizes the public authority's push for changes towards cost-intelligent tariff and direct appropriation plans:** These standards have not yet been carried out practically speaking in the power area. Bit by bit changes can be successful: India's administrations could explore two measures: decreasing cross-sponsorship from modern interest, in this manner, bringing down the weight on the industry, and giving direct exchanges to weak customers paid out of state financial plans, rather than addressing cost appropriations for private clients to DISCOMs.

   Worried by high cross-appropriation overcharges, the industry demands have effectively left the framework as a rule and picked market-based pricing. The open admittance to cutthroat power supply from the trades stays restricted because of the absence of bandwidth and uncompleted market changes in India. As a component of the recuperation bundle introduced in May 2020, the central government requested that huge public organizations give cost discounts to DISCOMs that will be given to modern industrial customers. An audit of Indias energy expenses could likewise assist with recognizing the country's potential for energy proficiency, intensity and fare initiative.

   India has effectively begun carrying out direct benefit transfers as a method for appropriation change, for example for LPG. Exercises learned in different purviews, like Turkey, affirm that fruitful change of the conveyance area requires a guide towards retail power tariffs that recuperate the full expense of supply. This is a significant driver for the monetary dissolvability of the area and a necessity for any expected privatization. India is an exceptional country and its DISCOMs have enormous and assorted purchaser groups and monetary difficulties ahead. Direct exchanges for the weakest purchaser groups and smoothed out power taxes for all buyers are income impartial for state spending plans. The public authority should introduce new rules for tax structures across India as models for state governments and controllers to follow.

2. **Keep a monetary recuperation as a significant chance to help the variety of the power area:** The pandemic has been driving changes in the Indian energy market that has been continuing for a long while. This is at the front line of the battle against pandemics and is particularly helpful for changing the disturbances that keep up lighting and changing variable renewables. Governments should guarantee that the administration of endemic zones is acceptable to address these challenges and secure their physical and monetary strength. The recuperation bundle expects the rudiments, yet the essential measures are comparably fundamental. Changes in power expenses can be a strong impulse for the economy to continue. Support needs to be provided

to mechanical interest, support independent ventures and join Make in India exercises. Expanding on the effective UDAY conspire, the recovery bundle for the force area as of now incorporates commitments for DISCOMs to keep lessening their losses, guarantee influence quality and dependability, improve charging and support computerized instalment.[19] These progressions ought to be made near the new recuperation bundle measures to guarantee that the bailout energizes future theory and a monetarily reasonable future.

3. **Accomplish Nationwide wholesale energy market with proficient exchanges trades:** India's public network is based on local matrices. Market and framework tasks mirror this. The Power System Operation Corporation (POSOCO) works a various levelled framework that includes bundle conveyance focuses in one country and 33 states. In any case, the vast majority of India's age is fixed at the territorial and state level, particularly renewable energy. Highway trade, liquidity, and rivalry stay powerless, and power buy costs are high. Power exchanging is for the most part an actual trade of auxiliary administrations to balance out the synchronization framework (deviation settlement component). The wholesale market at present addresses under 3% of all power exchanges. While there are exclusive requirements that Indian energy trades will sort out more proficient exchanging tasks, liquidity is divided across various items and exchanging stages. The global experience of the United States and the European Union is that market predominance at the state level can be lessened by territorial exchange bigger market zones, and transmission and frameworks administrators are the main impetus behind such cycles. The wholesale energy market, which depends on broad standards on appropriation and bandwidth, gives DISCOM the adaptability to fulfil needs in a solid, protected and beneficial way. A few adaptability choices should be improved. Continuous developing business sectors are an extraordinary chance, as momentary business sectors are the main impetus behind incorporation.

Conclusion

Petroleum products draw on limited assets that will ultimately diminish, getting excessively costly or excessively naturally harming to recover. Conversely, the numerous sorts of resources, for example, wind and sunlight-based energy, are continually renewed and won't ever run out. Environmentally friendly power is the ones that are recharged, taken from regular cycles at occasional stretches. They exist over more extensive geographic territories, which clear path for energy security, environmental change moderation and monetary advantages. It has the ability to inspire the oppressed nations to better statures of flourishing. India at first advanced the utilization of renewable resources of energy intending to decrease reliance on imports and consequently become independent and self-sufficient in terms of energy creation. Development in renewable resources of energy is a recent advancement taken place in India and the country has been advancing the use of sustainable power assets to alleviate the impact the pollution and battle environmental change. Remembering the worldwide tension on India in regards to the colossal figures of its fossil fuel byproducts, the lofty and quick development of the area of an environmentally friendly power in the nation is important for a low carbon development way.

[19] Aparna Iyer, "Discom debt to impact states' spending on development: RBI," Live Mint, April 8, 2016, http://www.livemint.com/Industry/DgYTFNJUmvLvsaQtWtgdEP/Power-reforms-likely-to-pressure-states-budgets-RBI.html.

The Act of 2003 which was enacted to regulate the renewable energy resources in India was amended in 2015. As we know that laws need amendment from time to time for dealing with the changes in society and the resources too. After the enforcement of the Amendment Act of 2015, India has seen no recent development or amendment in the act. Therefore, for fulfilling the needs that have been put forward in the Budget of 2021, the addition of some extra clauses and provisions might be needed in the upcoming years. Has India seen development in the times of outbreak of pandemic too? These developments need to continue for seeing their long-term effects.

It is important to set an aim if we want to reach a goal. The mention of renewable energy in the budget 2021 has also led to understand that the sector is also gaining importance in the country and so soon many of the development can be seen too. It also includes the duty of the citizens to follow the regulations that have been imposed so that renewable energy can be used appropriately and no waste incurs.

India is the only nation to have a separate ministry for renewable resources of energy. This portrays the reality of the Indian government in managing this issue. India is additionally the founding member of the International Solar Alliance; it was an initiative taken by India which was later upheld by the greater part of the countries. Different laws exist in our country which manages various sources of energy including non-conventional sources of energy. Ideally, because of the steps taken by the country, we can surely hope that India shall soon transform into an encapsulation for different nations in terms of love and care towards the climate.

Rethinking Development Finance Institutions in India

Mr. Varun Pandey*

ABSTRACT

One of the key highlights of the Union Budget 2021 was the proposed resurgence of Development Finance Institutions (DFIs) to bolster an ailing infrastructure industry in the wake of the Covid-19 induced economic recession. The government aims to facilitate the long-term infrastructure-financing requirements via the DFIs under the National Infrastructure Pipeline, which aims to catalyze the financing and oversee completion of around 7400 projects by 2025.

India's tryst with Development Finance Institutions is far from a novice initiative, as the concept evolved post-independence to fuel indigenous industrialization that had been overtly neglected, and it was only in the latter half of the 20th century that significantly marked an end to the arduous processes of establishing specialized banking institutions for funding long-term infrastructure projects. However, a significant challenge that lies ahead is the paradigm shift in policies over the decades that has elicited the current scenario no longer conducive to a flourishing DFI-based financing model. This article aims to address the functioning of DFIs as well as highlight the regulatory concerns associated with the re-introduction of DFIs in India and stipulates pertinent measures that shall be undertaken to ensure their efficacy in meeting India's infrastructure financing requirements.

Keywords: Development Finance Institutions. Infrastructure Financing, Long-Term Infrastructure Projects, Project Financing

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Introduction

The world is slowly reeling back to normalcy following the catastrophic year that was 2020, the stakeholders in the Indian economy have once again turned to arguably its most stable sector in terms of revenue, i.e., infrastructure.[1] The Union Budget 2020-21 has laid down considerable emphasis on the infrastructure space, as the government aims to monetize its operational assets and further expand its threshold by instituting greenfield projects. An increased allocation of capital to the National Investment and Infrastructure Fund and an overall boost of additional Rs. 5.54 lakh crore chalked out to the sub-sectors such as Railways, Ports & Shipping, Roadways and Highways etc. is believed to lead the way for the infrastructure sector projects that have battled operational delays and force majeure claims due to Covid-19 induced lockdowns throughout 2020. To expedites instituted projects and to set up new ventures, the Indian government has decided to establish a Development Finance Institution (DFI) to complement the National Infrastructure Pipeline (NIP) that was instituted in 2019. The upcoming DFI will be instituted with a base capital of Rs. 20,000 crores and is anticipated to acquire a lending target of Rs. 5 lakh crores by 2024. A key objective of the DFI would be to act as a catalyst for meeting the country's long-term infrastructure financing requirements that are seemingly expanding as the nation hinges more towards rapid urbanization. The inability of banks to finance long-term projects over the years has aggravated the corporations and investors alike, and a DFI-based model is expected to fill in the void.

It is imperative to note that this will not be India's first rodeo with DFIs, and as history would suggest, the initial DFIs were phased out essentially to shift the reliance on India's capital markets to meet the financing requirements. Part-I of this article shall discuss the role of DFIs in shaping up Infrastructure Financing in a country and the issues that led to a switchover from DFI-based financing in the early 21st century, whereas Part-II deals with the regulatory obstacles that lie ahead for the upcoming DFI and suggests measures that shall be imbibed to eventually promote a pro-competitive environment between government and private sector DFIs to meet India's infrastructure-financing demands for the upcoming decades.

What are Development Finance Institutions?

DFIs was initially conceptualized as a mechanism to offset the delays in India's industrialization, and unlike other wealthier countries that inherited sovereign capital to fund development projects, India was left with inadequate capital post-independence. The urgency for establishing development institutions precisely to finance long-term infrastructure projects was further aggravated due to a lack of a free-market economy that could provide a bond-equity based market and the limited role of commercial banks to participate in financing projects that didn't guarantee shorter maturities. The riskier characteristic of financing long-term infrastructure projects is off-putting for the banks as well, since their primary customers are small to medium-ranged depositors that prefer their savings be liquidated for quicker withdrawal.

To bridge the gap of providing long-term financing options for projects, DFIs are set up by the government to finance projects affiliated to a sector or various sub-sectors. Since

[1]Tanya Thomas, *Infrastructure FY22 outlook rises to stable: India Ratings*, LIVEMINT (accessed om 06-03-2021) available at: https://www.livemint.com/industry/infrastructure/infrastructure-fy22-outlook-rises-to-stable-india-ratings-11614323702961.html

the risks associated with funding long-term infrastructure projects are higher and are prone to various conventional and non-conventional hindrances, DFIs are aided by the government for facilitating economic growth in sectors that are fraught with danger. Traditionally, DFIs or Development Banks are funded primarily through the capital markets via equity and bond offerings, annual budget and surplus capital of the RBI.[2] DFIs are generally created for financing projects since, unlike commercial banks, they offer low and stable interest rates for lending working capital and meticulously oversee the functioning of the projects they lend to under 'relationship banking'. Furthermore, Development Banks are not limited by their services to financing only and provide technical expertise, as well as project management, know-how. Unconventionally, DFIs also invest in the equity offerings of the firms they lend to, thus extending merchant banking facilities for underwriting and listing of the equity capital. Being associated with the development banks further enhances the credibility of the equities offered by the firms to the small and medium retail investors.[3]

Post-Independence, various DFIs such as Industrial Finance Corporation of India (IFCI); Industrial Development Bank of India (IDBI); National Bank for Agriculture and Rural Development (NABARD) and Industrial Credit and Investment Corporation of India (ICICI) and so on were incorporated with a majority holding of the RBI for long-term financing of projects and enabling the growth of their respective sectors. However, the role of DFIs began to curtail significantly after the 19991 LPG reforms, as public funding was incorporated for the DFIs, causing some firms to exit development banking altogether, whereas most DFIs failed to fulfil the credit requirements of small-scale sectors as they were restricted by inaccessibility to low-cost deposits.[4] The eventual transition and merger of two crucial DFIs (ICICI and IDBI) into Universal Commercial Banks marked the eventual decline of the DFI regime in India that culminated in 2011 with the merger of IDBI Home Finance and IDBI Gilts with IDBI Bank.[5]

The Past DFI Regime and Regulatory Challenges for NaBFID

An analysis of the issues persisting in the earlier DFI regime brought to light various reforms in their regulation as due to their credit creation capabilities, DFIs were bound to strict regulatory norms of the RBI. For instance, the RBI incorporated Chapter IIIB to widen its control over NBFC's[6] and to secure their stability via monitoring powers and regular inspection of FIs, as up until 1990, the existing DFIs were visibly functioning without any regulatory oversight. The subsequent reports by committees instituted for reforming the DFI regime, such as the 1st Narsimhan Committee[7] (August 1991); 2nd Narsimhan Committee[8] (April 1998), and the Khan Working Group[9] instituted in May

[2]C.P. Chandrashekhar, *Development Finance in India*, HEINRICH BÖLL STIFTUNG (accessed on 12-03-2021) available at https://in.boell.org/sites/default/files/uploads/2014/03/development_finance_in_india.pdf
[3]*Ibid*
[4]*Ibid*
[5]*About Us*, IDBI (accessed on 12-03-21) available at: https://www.idbibank.in/idbi-bank-history.asp
[6] RBI (Amendment) Act, 1997.
[7] Jayanth Verma & R Raghunathan V, *Narsimhan Committee Report – Some Further Ramifications and Suggestions*, IIM-A (accessed on 19-04-21) available at: http://www.iimahd.ernet.in/~jrvarma/papers/WP1009.pdf
[8]*Harmonising the Role and Operations of Development Financial Institutions and Banks*, Reserve Bank of India (accessed on 19-04-21) available at: https://www.rbi.org.in/scripts/PublicationsView.aspx?Id=225
[9]*Ibid*

1998, advocated for the adoption of Universal Banking in India and for transitioning of the existing DFIs into commercial banks over the years by either mergers or acquisition with their subsidiaries.

However, the Report of Working Group on DFIs[10] under the leadership of Mr. N. Sadasivan suggested multiple operational reforms to enhance the resources of long-term lending institutions, many of which have been seemingly incorporated under the establishment of the upcoming NaBFID. The Working Group primarily suggested that Banks shall be allowed to ameliorate the discrepancies in their asset to liabilities management by issuing development bonds for subscription by retail investors[11]. In order to identify the specific economic industry that requires strengthening, the working group suggested that a meticulous social cost-benefit analysis is performed, and only those industries that urgently require government intervention shall be allowed the aid of DFIs. Additionally, the committee laid impetus on strict governance of DFIs and recommended that they shall be governed in accordance with the RBI Guidelines for NBFC's[12] as they are actively involved in raising immense capital via various instruments such as bonds; provident funds, domestic lending, trusts and retail investors. Therefore. their failure could significantly harm the country's financial equilibrium and trigger a domino effect that may escalate to other NBFC's or FIs as well[13]. While the Working Group suggested a few more reforms to be incorporated within the DFI regime, a plethora of those were realized with the eventual conversion of DFIs into Commercial Banks. Moreover, since the upcoming NaBFID will also be India's first DFI to be established post -1991 reforms, it is believed that the government would consider the aforementioned recommendations to prevent the errors that mirror the earlier DFI regime.

The National Bank for Financing Infrastructure and Development (NaBFID) Bill 2021 is slated to be introduced in the Cabinet during the budget session[14], hence it will be a Non-Banking Institution that will be governed by its own statute and shall derive its powers from an enacted legislature, unlike other DFIs and FIs that are covered under the definition of Non-Banking Finance Companies and inevitably fall under the RBI's purview. Nevertheless, re-introducing the DFIs or Development Banks will involve amending the pre-existing statutes and regulations that are pertinent to the industry. Notably, provisions under the Banking Regulation Act, 1949 and Reserve Bank of India Act, 1934 are likely to be amended in order to extend regulatory control of the RBI over the NaBFID. Furthermore, it is essential that the regulatory mechanism for DFIs shall take into account all the pertinent concerns related to the protection of investors if DFIs utilize the capital markets via the public listing of their equities and bonds, thus centralizing over SEBI's role in ensuring no ill-practices are conjected with the securities of NaBFID as well, that shall be attained by either notifying a new set of regulations that shall deal with disclosure requirements of NaBFID or via an amendment to the existing Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015. The eventual collapse of the earlier DFI model is often

[10] Report of the Working Group on Development Financial Institutions, Reserve Bank of India (2004) https://m.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=387#4
[11] *Ibid*
[12] FAQ, Non-Banking Financial Companies, RBI (accessed on 19-04-21) available at: https://www.rbi.org.in/Scripts/FAQView.aspx?Id=92
[13] *Supra* note 10
[14] PTI, *Government to introduce DFI Bill in Lok Sabha next week*, MINT (accessed on 19-04-21) available at: https://www.livemint.com/politics/policy/government-to-introduce-dfi-bill-in-lok-sabha-next-week-11616146516201.html

attributed to a lack of adherence to appropriate corporate governance standards.[15] IFCI, IDBI and ICICI provided long-term credit facilities to companies for infrastructure financing and subsequently held an interest in those companies through substantial shareholding. The DFIs further manoeuvred representation in the Board of Directors of the companies, and with their implicit control, their lender companies regularly siphoned off the capital allocated for financing infrastructure projects[16], thereby constituting a system with non-existent supervision or appraisal of credit. Although, regulations to ensure appropriate corporate governance measures have evolved since strict adherence to the existing framework shall be mandated. Provisions in the Companies Act, 2013 related to the constitution of the board, board meetings under Chapter XII; appointment and eligibility of directors and their powers under Chapter XI as well as related party transactions under Section 188. Moreover, to ensure uniformity with the global best practices about financial information disclosures, the DFI shall be held to the accounting standards as issued by the ICAI, as is prescribed under Section 133 of the Act. Similarly, the DFI's compliance with the Secretarial Principals as specified by the ICSI with regards to General Meetings of the BOD and Meeting of the BOD shall ensure adequate corporate governance norms.

Additionally, an amendment under the Insolvency and Bankruptcy (Insolvency and Liquidation Proceedings of Financial Service Providers and Application to Adjudicating Authority) Rules 2019 is likely to safeguard the creditors in the event, a DFI is notified under Section 227 of the IBC, and a corporate insolvency resolution process is initiated by the appropriate regulator.

The government has further planned to incentivize the setting-up of NaBFID by offering various benefits such as assured reimbursement on hedging costs of ECB's by the development bank, sovereign guarantee over loans granted to their borrowers and a concessional rate of 0.1% over government guarantees.[17] Nevertheless, the proposed Income-Tax holiday over the NaBFID for a period of 20 years will require certain amendments in the Income-Tax Act, 1961 along with the Indian Stamp Act, 1899.

Strengthening India's next DFI

Given the socio-economic overhaul that has occurred since India's last spur at infrastructure financing via Development Banks/ DFIs, it is anticipated that the NaBFID is likely to encounter an unprecedented range of hindrances that must be dealt with beforehand to prevent the mistakes from the past from recurring. Correspondingly, the need for inculcating the current market scenario with the upcoming NaBFID cannot be overemphasized. There are certain measures that shall be taken to achieve the desired efficacy and the overall objectives of setting up the DFI.

- *Ameliorating Force Majeure Risks*–A core characteristic of long-term infrastructure financing is that its laden with capital expenditure (Capex) risks as

[15]Chakrabarti, Rajesh, Corporate Governance in India - Evolution and Challenges. (accessed on 20-04-21) SSRN: http://dx.doi.org/10.2139/ssrn.649857

[16]Renu Gupta & Prof. K.V Bhanu Murthy, Demise of Development Finance Institutions in India: A Critical Appraisal, ISBN: 978-81-923211-3-4

[17]KR Srivats, *Coming Soon; Tax, other fiscal sops for development financial institution*, THBL (accessed on 21-04-21) https://www.thehindubusinessline.com/economy/coming-soon-tax-other-fiscal-sops-for-development-financial-institution/article33990092.ece

and operational expenditure (opex) risks. The possibility of the developers facing these risks enhances manifold considerations once an infrastructure project is instituted, although a majority of such contingencies are covered by the developers and the lenders beforehand. However, the possibility of an unforeseeable circumstance deviating the course of a long-term infrastructure project shall not be ruled out, as the indefinite time frame of the event is only bound to result in both enhancing debts and litigation expenses to recover said debts. Moreover, the recent Covid-19 pandemic has re-ignited the debate on invoking Force Majeure claims to defer liability. With regards to the change in law along with force majeure litigations that are ensued, the law is succinct[18] as numerous claims are put forth by the party seeking relief. The precedents set out through a few single-judge bench orders have limited the scope of frustration of contracts due to Covid-19 as a force majeure event. In *S Haliburton Offshore Services v. Vedanta Limited & Anr.*[19] The Delhi High Court upheld the principles laid down in *Energy Watchdog* and refused Force Majeure exemption to a turnkey project that was eight months past its due date and was further of the view that force majeure claims have to be construed restrictively and that the petitioner should have a 'real reason' or 'real justification' for invoking force majeure as a defence. In the similar case of *Standard Retail Pvt. Ltd. v. M/s. G. S. Global Corp & Ors.*[20], the Bombay High Court held that importing and distribution of steel is an essential service, and the petitioner cannot invoke force majeure under Section 56 of Indian Contract Act, 1872 to excuse itself from performing its due consideration caused by a temporary lockdown, thereby disposing of a Section 9 petition under Arbitration Act, 1996 seeking prevention of encashment of a Letter of Credit. Therefore, it is essential for the lender, in this case, the NaBFID, to ensure that the qualifying criteria for invoking force majeure clauses are illustrative and encapsulates all the probable events that could stymie a project.

- *Re-Enforcing Capital Requirements via InvITs/REITs*–Aside from being overly dependent on the government infused capital in the DFI, utilizing the recently proposed Infrastructure Investment Trusts (InvITs) and Real Estate Investment Trusts (REITs) could be realized as an alternative source of capital for financing long-term infrastructure projects and could mitigate the burden over NaBFID. The REIT/InvIT mechanism is structured around unit holders of commercial real estate as well as developers of long-term infrastructure projects to devise revenue from the commercial property holdings through their rent-structures or via revenue from operation and maintenance services for the developers of infrastructure projects. General InvITs/REITS undertakings include real-estate ventures, industrial parks, hotels and hospitality projects, special economic zones et cetera. Union-Budget 2021 has further allowed the InvITs/REITs to exploit funding from Foreign Portfolio Investors, making leeway for foreign capital into the infrastructure financing demands[21].

[18]Energy Watchdog v. CERC, Civil Appeal Nos.5399-5400 of 2016
[19]O.M.P (I) (COMM.) No. 88/2020 & I.As. 3696-3697/2020
[20] Commercial Arbitration Petition (L) NO. 404 OF 2020
[21]PTI, *Budget 2021: Govt. to allow FPIs to debt finance REITs, InvITs*, LIVEMINT (accessed on 21-03-21) available at: https://www.livemint.com/budget/news/budget-2021-govt-to-allow-fpis-to-debt-finance-reits-invits-11612180981392.html

- *Asset Monetization and Eventual Divestment* -With the government's strong push for divestment from state-run companies, its fixed shareholding[22] in NaBFID to 26% could be diluted over the decades once its objectives have been met. This would facilitate private sector investment in the infrastructure regime, with a potential DFI unblemished by government intervention and may lead the way for more since it is unlikely that one DFI can meet India's enormous infrastructure financing objectives. Monetizing the government-owned assets would aid the divestment regime and open up the sector for a more efficient interplay through PPP models. The decision to divest and monetize the stake in non-core sectors, beginning with oil and gas pipelines[23], will make headway and enable allotment of capital strictly towards infrastructure financing.

Conclusion

The Government's idea of re-instituting a Development Finance Institution as a catalyst to fund long-term infrastructure projects and refurbish the depleted financing resources is a welcome step for the industry. The ambitious outlook behind NaBFID has to counter various pitfalls, amidst a wave of discontent behind the infusion of 20,000 crores as paid-up capital and government's complete stake over the development bank as at the same time it is struggling to reduce its interest in the public sector undertakings. There are certain moot points with regards to the DFI harnessing funds as, unlike the earlier regime, the NaBFID will not be privy to specific privileges such as availability of cheap funds and instantaneous borrowing powers from the Reserve Bank of India, nevertheless on the bright side, the NaBFID will be capable of accessing the capital markets unlike its predecessors, and the sovereign backing will only aid in mass-subscription of its equities or bonds should it feel the requirement to list them sometime in the future.

Similarly, one other area of concern that has caused substantial impairment to the government's objectives in the past has been the consistent meddling of bureaucracy in granting clearance to pending project approvals. In order to prevent the mistakes of the earlier DFI regime from recurring, an anti-corruption oversight mechanism is imperative, as minimal red-tape is the sub-catalyst for the idea that is a Development Finance Institution.

[22]Gireesh Chandra Prasad, *Cabinet okays development finance institution for infrastructure*, LIVEMINT (accessed on 21-03-21) available at: https://www.livemint.com/news/india/cabinet-clears-setting-up-of-development-finance-institution-11615890140339.html

[23]Anshu Sharma, *Government finalizing roadmap for asset monetization: Report*, CNBC (accessed on 21-03-21) available at: https://www.livemint.com/news/india/cabinet-clears-setting-up-of-development-finance-institution-11615890140339.html


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Submarine Telecommunication Cable Infrastructure Regime in India: An Analysis on the Indian Legal and Regulatory Regime

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ABSTRACT

Submarine cable infrastructure is the backbone and key to global telecommunications and the internet vis-à-vis the security and economy of every country. India's growing population and its dependency on cable networks create an exigency to require one of the largest subsea networks to meet the growing demand in the economy. India's strategic and geographic position in the Indian Ocean region must be exploited to meet its ambition in becoming one of the world's few cyber superpowers. However, India's complex and unwieldy legal and regulatory regime in lieu of its inconsistency within domestic laws makes India a potential target for damage. Cable-related issues are regulated by measures that are found scattered in different laws, notifications, orders etc. and that are dealt with by different authorities that run across several Ministries. This article articulates India's position as presently unsupported by an efficient permit regime in the light of the domestic legal framework. The article embarks on the present-day challenges in the Indian regulatory system and furnishes recommendations for better coordination and compliance to improve India's position in global telecommunications.

Keywords- Submarine Cable, Legal Regime, Regulatory Regime, UNCLOS, Cableship, Vessel

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Introduction

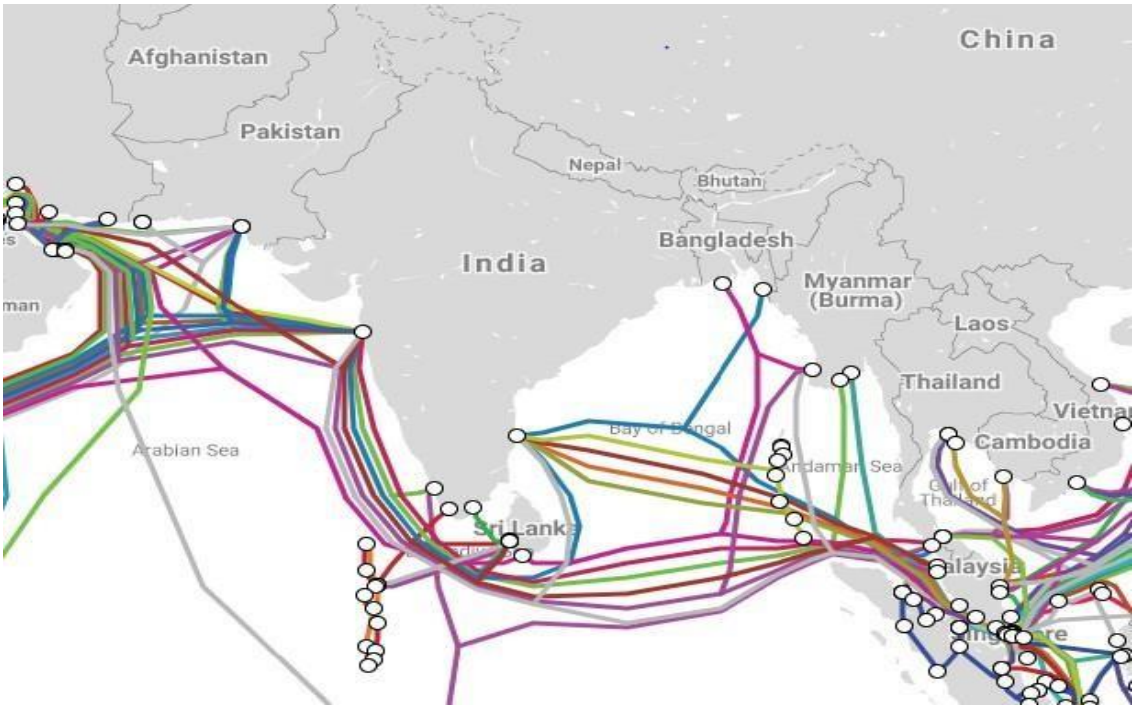
Submarine cables inhabit a critical position within the globally interconnected networks by carrying about 99% of international communications traffic, with demand projecting to double every two years for the foreseeable future.[1] This rocket growth in demand for data, fuelled by bandwidth-intensive applications, continued exposure to mobile device usage, and proliferation of cloud-based services, has driven towards a considerable growth and rise in the global submarine deployments.[2] Over The Top Service providers only continue to showcase strong earnings reports at a rapid pace indicative of bandwidth demand, not expected to weather off any soon.[3] This exponential growth in the Submarine Telecom development industry turns towards India's fast-growing technology sector, which makes this region prime for growth.[4] The backbone of the global telecommunication network that facilitates the growth of independent economies induces dependency on submarine cables over its economy and security. Further, this growth is coupled with associated challenges in the submarine cable infrastructure, which is responsible for financial transactions up to $10 trillion daily, closely raveled with India's potential to emerge as a global cyber superpower.[5] *The United Nations Convention on the Laws of the Sea, 1982 (UNCLOS)*[6] and the domestic laws of a country sought to regulate activities relating to submarine cables. However, this regime of submarine cables is often overlapped by India's conflicting interests of other maritime uses. At the domestic level, the Indian framework is inadequate in ensuring the protection of cables within its jurisdiction due to a lack of specialized domestic laws and policy, thereby undermining the criticality of submarine cables to its economy.

With freedom of movement being an issue post-Covid-19 pandemic, it was observed that there has been a shift in India more predominantly accessing the internet via mobile devices, with the latest statistic depicting 90% market accessing the internet in an above-mentioned manner.[7] India, being the second most populated region in the world, just need one of the largest subsea networks, which would be driven by the increasing demand and a growing digital economy. However, the vested interests, policies and bureaucracy prevailing in the country have held back its development in the sector, making it a far-reaching goal to meet similar demand levels for itself.[8] Currently, there are about 18 subsea cables landing in 15 cable landing stations across four cities in India. Out of 18 subsea cables, around 7 subsea cables terminate in India.[9] Submarine cables meet one of

[1] Wayne Nielsen et al, *Submarine Telecoms Industry Report*, (7th Ed Submarine Telecoms Forum, 2019), 12. https://subtelforum.com/products/submarine-telecoms-industry-report/ ; see also, Douglas Main, "Undersea Cables Transport 99 Percent of International Data" Newsweek, April *2015*. https://www.newsweek.com/undersea-cables-transport-99percent-international-communications-319072.
[2] *Id.*
[3] *Id.*
[4] Submarine Telecommunication Forum Magazine, May 1, 2020. https://issuu.com/subtelforum/docs/subtel_forum_issue_112.
[5] Ronald J. Rapp et al. 2012. India's Critical Role in the Resilience of the Global Undersea Communications Cable Infrastructure, 3 Strategic Analysis, *Taylor and Francis Group* , 375-383 (2012), https://doi.org/10.1080/09700161.2012.670444.
[6] United Nations Convention on the Law of the Sea, 1982.
[7] Eric Handa and Sean Bergin. The Impact of Covid-19 on Telecommunications and the Future, Submarine Telecommunication Forum Magazine, May 18,2020 https://issuu.com/subtelforum/docs/subtel_forum_issue_112.
[8] John Tibbles. Subsea Cable Demand Post Covid-19, Submarine Telecommunication Forum Magazine, May 17, 2020. https://issuu.com/subtelforum/docs/subtel_forum_issue_112.
[9] Suvesh Chattopadhyaya, Is India'a subsea cable infrastructure sufficient to support next-gen business,

the most complex regulatory challenges with respect to ocean governance.[10] States are yet to acknowledge the importance and challenges of the submarine system.[11] Challenges in relation to cable operation mechanism and its protection/repair continue to exist without changes made in the current regime.

Figure 1[12]: India's submarine cables and maritime zones. (*Source*: Submarine Cable Map, TeleGeography.



Disturbance in the cable system that affects multiple jurisdictions in one place extends to other jurisdictions as well.[13] Any form of interruption in the functioning of subsea cables may become detrimental to a nation's economy and security. India's cable system stability rests upon the collective supportive system across borders, hence, as a result, an integrated submarine cable management approach would prove to be an effective measure. In 2008, the vent of multiple cable cuts in the Mediterranean and Persian Gulf region had caused widespread loss of internet connectivity through the Middle East and South Asian region. India had lost 60 percent of traffic.[14] In another event, in 2013, BSNL, the prime bandwidth provider, lost 21% of traffic.[15] Paramount Communication Limited

2008 https://www.submarinenetworks.com/en/insights/is-india-a-subsea-cable-infrastructure-sufficient-to-support- next-gen-business.

[10] Douglas R. Burnett et al eds., Submarine Cables: The Handbook of Law and Policy (Martinus: Nijhoff, 2014).

[11] Beckman, Submarine Cables-A Critically Important but Neglected Area of the Law of the Sea(paper presented at the 7th International Conference of the International Society of International Law on Legal Regimes of Sea, Air, Space and Antarctica, New Delhi, 15-17 January 2010, https://cil.nus.edu.sg/wp-content/uploads/2010/01/Beckman-PDF-ISIL-Submarine-Cables-rev-8-Jan-10.pdf.

[12] <https://www.submarinecablemap.com/>

[13] Coffen-Smout, Scott, and Glen J. Herbert, Submarine cables: a challenge for ocean management, 24(6) Marine Policy 448-448 (2000).

[14] Karl Frederick Rauscher. *Reliability of Global Undersea Communications Cable Infrastructure 300 (ROGUCCI)*, August 11, 2020, https://www.ieee-rogucci.org/files/The%20ROGUCCI%20Report.pdf

[15] Bobbie Johnson, how one clumsy ship cut off the web for 75 million people, *The Guardian*, February 1, 2008. https://www.theguardian.com/business/2008/feb/01/internationalpersonalfinancebusiness.internet.

became the only first Indian company to work on repairs to work on Bharat Lanka Undersea Cable System (BCLS) since the year 2006.[16]

The Indian policy and regulatory regime do not support the facilitation of submarine cable operations and repair within its Maritime Zones due to several permits that are required to be obtained before commencing the operations. Cable-related issues are regulated by measures scattered in different laws, notifications, orders, etc. and, that are dealt by different authorities that run across several ministries. Having said this, the cable shipping companies end up spending several months and losing millions of dollars in the course of procuring these permits. These factors make India a chokepoint affecting not only the Indian telecommunication industry but also, every other state that is connected by the damaged cable.[17] The submarine cable infrastructure challenged by an inadequate protection regime *in lieu* of the inconsistency within domestic laws would pose a consolidated threat to submarine infrastructure.

This paper will examine the broad issue of the legal and regulatory regimes on establishing cable network and repair operations that govern the submarine cable infrastructure and operations in India's maritime zones. Further, the article will articulate the existing legal regime within national and international laws and the resultant challenges associated with it. The first segment of the article will outline the international legal regime governing subsea cables, followed by India's legal regime relating to submarine cable operations in the territorial sea and the exclusive economic zone. The second segment examines the regulatory/permit regime on cable operations coupled with setting out recommendations and potential changes in the subsea cable system. The article embarks on the present-day challenges in the Indian regulatory system and furnishes recommendations for better coordination and compliance to improve India's position in global telecommunications.

Part I: International Legal Regime on Submarine Cables

The first international instrument that provided obligations for breaking telegraph cables in the High Sea was prescribed under the Cable Convention, 1884.[18] However, this age-old convention was limited only to a few states which were signatories to it.[19] It was only after more than half a century that the global community made deliberations on the law of the sea to include subsea cables. Thereafter, 'Freedom of Laying Submarine Cables' was codified and recognized by the *Geneva Convention on Continental Shelf*[20]. Further, in following the path of its predecessor (*Cable Convention, 1884*), it also adopted provisions in relation to the protection of submarine cables.[21] Later, all these provisions

[16] Deepak Kumar Jha. Optical fiber company repairs undersea net cable facility to SL, *The Pioneer, September 9, 2019,*"https://www.dailypioneer.com/2019/india/optical-fibre-company-repairs-undersea-net-cable-facility- to-sl.html.

[17] Anjali Sugadev, India's Critical Position in the Global Submarine Cable Network: An Analysis of Indian Law and Practice on Cable Repairs,56 Indian Journal of International Law., 173-200 (2016). https://link.springer.com/article/10.1007/s40901-017-0050-y.

[18] Convention for the Protection of Submarine Telegraph Cables, opened for signature March 14, 1884, Australian Treaty Series 1901 no. 1, https://cil.nus.edu.sg/wp-content/uploads/formidable/18/1884-Convention-for-the-Protection-of-Submarine-Telegraph-Cables.pdf

[19] Beckman, *supra* note 12, at 3.

[20] Convention on the Continental Shelf, opened for signature April 29, 1958, United Nations, Treaty Series, vol. 499, p. 311

[21] Beckman, *supra* note 12, at 3.

were included *ad verbatim* in The United Nations Convention on the Law of the Sea ("UNCLOS"), 1982, which became the primary international law on submarine cables.

Under the UNCLOS, the coastal states have sovereignty over territorial waters for up to 12 nautical miles.[22] As a result, the national law of territorial waters becomes applicable on submarine cables. On several coasts, there are either minimal or no legal measures to reduce the potential threat to submarine cables from indiscriminate maritime activities, like deep-sea mining, bottom trawling for fishing etc. Further, UNCLOS does not lay an obligation upon the states to adopt laws for submarine cable in the event of cable damage. The same would not be prohibited.[23]

The rights in relation to the sea bed and subsoil are related to the continental shelf regime. Notably, a combined reading of Article 87[24], that is, freedom of high seas includes laying of subsea cables and, Article 58(2)[25] makes it clear that freedom of laying subsea cables applies to the EEZ as well. Articles 58 and 59 further reassures other state's right to lay submarine cables in the EEZ of the coastal states. However, the same must be in compliance with the convention and domestic laws of the state. Further, notably, subsea cables are predominantly owned by private companies and not by states.[26] Articles 77 & 78[27] provide limitations upon the coastal states to facilitate submarine cable operations. Article 79 (2) provides that the laws of the coastal state in the continental shelf and EEZ must be reasonable. Further, Article 79(5)[28] poses a restriction upon a coastal state to refrain from adopting measures or enacting legislations that may affect the contingent needs for the repair of cables already laid.

The two major issues that contribute as an area of concern in the protection of submarine cable infrastructure in the continental shelf and EEZ are *firstly*, the protection of cable ships and *secondly*, the protection of submarine cables themselves, in this region. There may arise a conflict in the other marine uses and repair of cables that might cause problems. For instance, the vessels engaged in fishing activities cause interference to cable ships involved in cable operations.[29] This may affect the immediate cable repair and may lead to interference in urgent telecommunications. The Cable Convention, in this regard, provides for maintaining a minimum distance between vessels by giving prior notice to the local guards in the areas of operation. Further, the *CLOREGES, 1972*, requires cable ships to demonstrate signal and sound in the operation area to keep other fishing vessels away.[30] However, these above-mentioned measures find no mention

[22] United Nations Convention on the Law of the Sea opened for signature December 10, 1982, United Nations, Treaty Series, vol. 1833, p. 396.
[23] Utpal Kumar Raha and Raju K.D., Submarine Telecommunication Cable Infrastructure in South Asia Under International Law: Opportunity for Sri Lanka and India, 26 Sri Lanka J. Int'l L. 79, (2018).
[24] United Nations Convention on the Law of the Sea, *Article 87.*
[25] United Nations Convention on the Law of the Sea, *Article 58 (2).*
[26] Myron Nordquist et al. (eds). The United Nations Convention on the Law of the Sea 1982: A Commentary," (Martinus Nijhoff Publishers, Leiden 1993).
[27] United Nations Convention on the Law of the Sea, *Article 77 & 78.*
[28] United Nations Convention on the Law of the Sea, *Article 79(5).*
[29] Ninety-Four Consortium Cable Owners v Eleven Named French Fishermen, Tribunal de Grande Instance de Boulogne Sur Mer (1st Chamber), August 28, 2009.
[30] Douglas R. Burnett, The 1884 International Convention for Protection Of Submarine Cables Provisions Not In UNCLOS Deserve Attention Now, *Squire Sanders and Dempsey , 5* (2011) , https://cil.nus.edu.sg/wp-content/uploads/2011/04/Douglas-Burnett_1884_International_Convention_for_Protection_of_Submarine_Cables_Provisions_Not_in_UNCLOS_De1.pdf

within the UNCLOS. For this reason, the coastal states often neglect to implement these mandates during the cable repair operation.[31]

Further, submarine cable infrastructure is enormously challenged by inadequate protection, along with the substandard implementation of the existing regime. This inconsistency in international law and domestic law poses a threat to potential growth and creates a chokepoint for laying subsea cables in the region.

Part II: National Legal Regime on Submarine Cables

In September 2017, the undersea communication link that establishes a link connected between South East Asia-Middle East-Western Europe ("SEA-ME-WE-3"), the world's longest undersea cable, was damaged during repair being carried out by the Kerala Water Authority in Kundannoor. Over 92 telecom companies from across the globe were key stakeholders in the venture and the cable had a total of 39 landing points. The cable services remained disrupted for six-and-a-half hours and in the places wherein the stakeholder did not have a backup, they suffered total internet blackout, and in other cases, the internet connectivity had been very slow. Notably, this wasn't the first time it had been damaged.[32] In the future, similar such instances might occur if the regulations on a potential site of failure are not improved. The extremity of regulations in India inclusive of laws on cable ships within Indian waters and permits/requests to install monitoring equipment for terminating bandwidth coupled with the factor of being prohibitively expensive make India a chokepoint for the carriers to conduct business.[33]

The primary legislation and provision that deals with the law of the sea in the Indian coastal maritime zones are the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976 ("Territorial Waters Act").[34] As stated earlier, Article 21 of UNCLOS allows the coastal states to adopt laws and regulations with respect to the protection of submarine cables. Section 4(3) of the Territorial Waters Act, empowers the Central Government to regulate the entry of foreign ships (including cable ships) if it is satisfied that it is necessary to do so in the interest of India's peace and security.[35] Section 6 and 7 of theTerritorial Waters Act[36] are provisions dealing with maritime zones beyond 12 nautical miles, that is, rights in the EEZ and the Continental Shelf where the coastal state has no sovereignty in terms of territoriality or dominium but possesses sovereign rights over the ocean's resources in the form of exploration, exploitation, management and conservation of natural resources.[37] The Territorial Waters Act explicitly addresses provisions in relation to submarine cables only under Section 6(7) and Section 7(8). Section 6(7) provides that the Central Government shall not impede the laying of submarine cables or pipelines by foreign vessels in the continental

[31] Burnett. D., *supra* note 11 at, 3.

[32] Swarajya Staff, Kerala: World's Longest Undersea Cable Damaged During Repair Works, *Swarajya*, September 20, 2018. https://swarajyamag.com/insta/kerala-worlds-longest-undersea-cable-damaged-during-repair-works.

[33] Nicole Starosielski, Strangling the Internet Limn, *(*2020). https://limn.it/articles/strangling-the-internet/

[34] The Maritime Zones of India (Regulation of Fishing By Foreign Vessels) Act, 1981, No. 42, Acts of Parliament, 1981 (India).

[35] The Maritime Zones of India (Regulation Of Fishing By Foreign Vessels) Act, 1981 § *4(3),* Acts of Parliament, 1981 (India).

[36] The Maritime Zones of India Act, (Regulation Of Fishing By Foreign Vessels) Act, 1981, *§ 6 & 7*, . Acts of Parliament, 1981 (India).

[37] Aban Loyd Chiles Offshore Ltd. & Anr. v Union of India & Ors., (2008) 11 S.C.C. 439 (India). See also; Republic of Italy & Ors. v Union of India & Ors., 4 S.C.C. 721(2013)

shelf subject to the measures necessary for protecting the interests of India. Section 7(8) provides for provisions similar to that of Section 6(7) in the EEZ.

The regulatory regime on submarine cables in India exists in the form of several notifications, circulars and regulations issued by different Ministries that spreads across seven Ministerial Governmental departments, i.e., Ministry of Home Affairs ("MOHA"), Ministry of Defence ("MOD"), Directorate General of Shipping, Flag Officer, Offshore Defence Advisory Group, Indian Customs department, Indian National Shipowners' Association and Port authorities. Although it may appear a sound submarine cable regime, however, this institutional framework represents a rather cumbersome cable regulatory and infrastructural regime which may not produce a potential outcome to its effect.[38] In the jurisdictions wherein there occur one or more cable faults in a year, India takes the second-highest average mean time to commence repair of submarine cables extending up to 50 days.[39] This delay in subsea cable faults in India is predominantly due to the requirement of several permits at the time of default. These lengthy delays relating to cable infrastructure and repair operation results in laying a high financial burden upon the cable operators coupled with additional standby costs.

Part III: Permit Regulatory Regime for Establishing Submarine Cable Network

Network operators work in accordance with the regulatory regime prevailing in the country. Often project implementations in India are heavily impacted due to cumbersome regulatory framework to facilitate system implementation and maintenance. This segment would portray the complexities in project planning coupled with unwieldy requirements and an undefined approval system. This process involves permit requirements from different government and ministerial departments.

***Permits necessary to install a system with a landing point*:** The primary permit for a regulator to establish a network is the 'Cable Station Landing License' that is issued by the Ministry of Communications and IT/Department of Telecommunications. This involves a process in which

approval from the Coastal Zone Management Authority, Department of Environment is required. The same is required to assess the impact on the environment of the project that is within the coastal regulation zone. Thereafter, approval from the Ministry of Environment and Forests is granted on the basis of its recommendation. Further, an agreement including the provisions for the network regulator to pay annual fees relating to the occupancy of the seabed is to be signed with the Maritime Board of the concerned state/UT.

***Operational permits to undertake survey or installation operations in India with a foreign vessel*:** The Director-General of Shipping provides a 'Specified Period License' permitting the vessel to undertake operations in India. This process thereafter involves approval from the National Ship Owners Association.[40] No Objection Certificate for operation from the Ministry of Defence.[41] The Ministry of Home Affairs is then required

[38] Anjali Sugadev, *supra* note 17, at 4.

[39] Source: Verizon, for the International Cable Protection Committee. Copyright International Cable Protection Ltd.

[40] Guidelines for Chartering a Foreign Flag Vessel, *Indian National Shipowners' Association*, March 27, 2000. http:// insa.in/content/81/guidelines-for-chartering-a-foreign-flag-vessel

[41] Guidelines for E&P Operators for MOD Clearance in Respect of Vessel Deployment / Engagement and

to give a Security Clearance to all foreign nationals on the vessel board out of the applications forwarded by the Ministry of Communications submitted to them by the network operators. Further, for the vessel to be imported in India, the company must hold a valid Importer Exporter Code that would act as an Importer of Record. Final Naval Security Clearance from the Flag Officer Defence Advisory group is granted following an inspection of the vessel and the crew prior to its operations in India's EEZ. Similarly, at the end of the operations, the vessel would again undergo an inspection before leaving India.[42] Further, with regards to the vessel imported into India, this vessel has to go through customs clearance.

The table below shows the average time expected from a ministry and/or authority to provide clearances in relation to actual delay that is incurred on installation projects on account of the complex permit requirement systems.[43]

No	**Permit Requirements**	**Expected Durations**	**Extended Permitting Durations**
1.	Ministry of Defence	2 Months	12 Months
2.	MOHA Security Clearance	3 Months	6 Months
3.	Customs Clearance for Import/Export of Cable Ship	1-2 Weeks	5 Weeks

The outcome of such an operational regime is that, in effect, it becomes impossible for a cable system to pass through India's EEZ without the sponsorship of a company that is holding an Indian telecom operators license. Additionally, this is followed by the requirement that all crew members must hold MOHA clearance, which can be obtained only by an entity that isholding an Indian telecom license.

Although complex permit regimes involve a process of considerable management effort, however, in situations wherein the timescale of permit approval is undefined or uncertain, it becomes difficult to mitigate effective implementation of the project. One such issue is custom clearance for vessel importation for the purpose of marine installation by an operator. The vessel and the crew are held on standby during the time the authorities complete their assessment. There have been instances wherein the vessels are delayed at the port due to uncertainty of officials regarding the custom duties and application of service tax for vessels that lie beyond 12nm but within 200nm in EEZ.[44]

Data.Directorate General of Hydrocarbons, Ministry of Petroleum & Natural Gas, Government of India, \http://www.dghindia.gov.in/assets/downloads/570ce280a688a1003.pdf.

[42] Douglas Burnett, "Submarine Cables on the Continental Shelf," in The Regulation of Continental Shelf Development: Rethinking International Standards, edited by Myron H. Nordquist, John Norton Moore, Aldo Chircop, Ronán Long, 53–70 (Martinus Nijhoff, Leiden/Boston, 2013).

[43] Nick Smith et al, Emerging Subsea Networks Regulatory Challenges of Project Implementation – India Case Study,*Sub Optic,* (2016). https://businessdocbox.com/Government/108253394-Emerging-subsea-networks.html. (Confirm this link after comparing with old doc)

[44] Smith, *supra* note 43, at 10. *Emerging Subsea Networks Regulatory Challenges of Project*

Part IV: Permit Regulatory Regime on Cable Repairs

Due to the essential nature of submarine cables, cable ships are required to be on standby at their regional depot to attend to the cable repair at the time of damage and/or breakage. On account of this, to shorten the period required to obtain permits for carrying the repairs, applications are made well in advance from the *MOHA and MOD*. Any cable vessel that is commissioned to engage in cable repair operation in the territorial sea or EEZ is required to seek an MOHA Clearance. The application for clearance is to be submitted by the cable operators to the Department of Telecommunications (DOT) before its expiry, which is thereafter sent to the MOHA for approval. The same is to be obtained on a yearly basis.[45]

MOD Clearance is required under the Ministry of Defence Guidelines for cable repair in the Indian territorial sea and the EEZ, 1996.[46] The application for clearance is submitted to the DOT along with the Research Survey, Exploration and Exploitation of Resources (RSEE) Form, which provides the details of the ship and crew members, thereafter, it is forwarded to the MOD. These applications are submitted at the time when the vessel reaches the port before repair. The entire processing time takes about 7-14 days.[47]

Further, the MOD clearance is granted under a condition that the vessel shall undergo a Naval Security Clearance before deployment. The clearance is terminated once the vessel leaves the India waters post, which a fresh clearance would be required in the future.[48] The requirement of physical security clearance inspection is directed under the 'Apprehension of Vessels Violating Provisions of MZI Act 1976 and MOD Guidelines, 2006'.

Indian National Ship Owners Association Clearance is another permit requirement that is applicable in the territorial sea and the EEZ to determine if the Indian flagships hold the capability of performing cable repairs before a foreign vessel is deployed for the repair operations.[49] The permit time to undertake this process takes 3-4 days. Further, this requirement is inconsistent with the UNCLOS.[50] Notably, there are currently no existing Indian ships that have the adequate infrastructure and technology to execute cable repairs. The Indian cable operators are under single-owner private arrangements or are members of multi-owner consortia through which by entering into a maintenance agreement, the cable ship companies ensure the availability of appropriate equipments at the time of cable fault.

Post the INSA Clearance, the vessel applies for SPL; *Specified period License*. This process takes 3-5 days. Thereafter, permits are required at the port at the time of repair. As per the Indian customs regulation, a cable ship is a foreign vessel, and hence, it is

Implementation.

[45] Anjali Sugadev, *supra* note 17, at 4.

[46] Guidelines for E&P Operators for MOD Clearance in Respect of Vessel Deployment / Engagement and Data.
\http://www.dghindia.gov.in/assets/downloads/570ce280a688a1003.pdf.

[47] Kalyan Parbat, Security Nods for Foreign Staff at Telecoms on Hold on Technical Grounds, *Economic Times Bureau*, November 12, 2014 https://economictimes.indiatimes.com/industry/telecom/security-nods-for-foreign-staff-at-telecoms-on-hold-on-technical-grounds/articleshow/45124253.cms?from=mdr.

[48] Parbat,*Security Nods for Foreign Staff at Telecoms on Hold on Technical Grounds.*

[49] Guidelines for Chartering a Foreign Flag Vessel, *Indian National Shipowners' Association*.

[50] Anjali Sugadev, *supra* note 17, at 4. *India's Critical Position in the Global Submarine Cable Network.*

imported to India and has to undergo *Customs Clearance.* At the time of importation, the cable operator has to provide a bond against the vessel. Post the repair operations, the bond is cancelled and the ship is exported. This process takes an average of 30 days. The cable operators often face financial hardships due to bonds being withheld against them for non-compliance with custom requirements. Additionally, there exists a difference in practice at different ports in India which leads to ambiguity and uncertainty.[51] In addition to this, since cable ships conduct coastal trade in the territorial sea, before commencing operations they are required to be converted from foreign to coastal running. However, this practice of conversions differs in different ports.

When all the above-mentioned permits are fulfilled and obtained, the cable ship may request clearance to depart the port and commence repairing operations. After the cable is repaired, the vessel is required to return to the Indian port. Customs clearance would be required for the cables used thereafter which the cable operator would obtain bond cancellation along with duty drawback application. Finally, Outward Clearance and Immigration Clearance would be granted by the port authorities to the vessel thereafter which, the vessel could return to its base port.[52]

The table below shows the average time involved in clearing permit requirements by each department/ministry.

No.	**Ministry/Government Authority Involved**	**Permit Requirement In Territorial Sea/EEZ**	**Time Taken (Working Days)**
1.	Ministry of Home Affairs; Through the Ministry of Communication	MOHA Pre-Clearance	90-120
2.	Ministry of Defence; Through Ministry of Communication	MOD Pre-Clearance	7-14
3.	Indian Naval Ship Owners Association	Indian Naval Ship Owners Association Clearance	3-4
4.	Directorate General of Shipping	Specified Period License	3-5
5.	Customs Department	Customs Clearance	14
6.	Flag Officer, Offshore Defence Advisory Group	Naval Inspection and Security Clearance	1-5
7.	Post Authorities	Post Clearance	1
8.	Port Authorities	Port Clearance	10-20

[51] Anjali Sugadev, *supra* note 17, at 4.
[52] Anjali Sugadev, *supra* note 17, at 4.

The above table depicts a rather complex compliance regime that takes several days and undue delays, for undertaking operational and repair activities. There is therefore a critical need to undertake a consistent and conscious effort in improving the regime on the protection of submarine cables in order to protect the financial health and security concerns in India. The parent legislation must be rationalized by aligning its laws that are consistent and in parlance with the international regime. The MOHA Pre-clearance procedure is unique to India and is not followed by any country. Also, the MOD guidelines 2006, does not apply to subsea cables. Hence, it would be ideal to remove MOHA and MOD permit requirements. The DOT must maintain a database of crew members and cable ships that are involved in regular cable operations. This would the reduce time involved in the verification process. The requirement for an INSA Clearance is inessential since it involves a redundant process of obtaining confirmation on the non-availability of an Indian cable ship thereby causing undue delay.

Another notably prominent issue that causes hardships to the cable operators is the submission of bond. Cable operational activities in the territorial sea and the EEZ shall be allowed duty-free. Further, the naval inspection before the repair operations shall be done on a priority basis without any delay keeping in view the criticality of the damage to the subsea cables. With regards to India's concern relating to the safety of navigation and interference with other maritime activities, a notification by the lead agency intimating repair plan activities could be intimated to other vessels, fishing ships etc. In addition, to avoid a collision at sea, provisions from the Convention on the International Regulations for Preventing Collisions at Sea 1972[53] shall be followed by using signals and sounds to prompt other vessels of subsea activities[54].

PART V: Perspective for the Future

The damage to any submarine cable is time-sensitive and requires the quick deployment of cable repair ships to start the repairing operations. In 2017, the Sri Lankan Government laid the foundation for building a submarine cable deport in Port Galle.[55] It was the first of its kind in South Asia. The question is how ambitious is India in becoming a host country that would play a lead in offering a common platform wherein the stakeholders would have the opportunity to form cooperative measures to address their respective concerns underpinning the submarine cable operations to establish growth and advancement in international communications. With India's potential to become a global cyber superpower, its engagement and role in the field of submarine cable operations become crucial not only for itself but also for countries in the South Asian region and beyond.

The submarine cable regime by far remains one of the most neglected agendas - in both international and domestic policy and legislative debate.[56] In the absence of a lead

[53] The Convention on the International Regulations for Preventing Collisions at Sea (COLREG), opened for signature October 17, United Nations, Treaty Series, Vol. 1050 pg. 16. https://treaties.un.org/doc/Publication/UNTS/Volume%201050/volume-1050-I-15824-English.pdf.
[54] The Convention on the International Regulations for Preventing Collisions at Sea, 1972, *Rule 27 and Rule 3(g)(i).*
[55] P. D. de Shilva, SLT opens SEA-ME-WE-5 Submarine Cable' Daily FT, *Daily FT,* October 4, 2017. http://www.ft.lk/front-page/SLT-opens-SEA-ME-WE-5-Submarine-Cable/44-640887.
[56] Utpal Kumar Raha, *supra* note 23, at 6. *Submarine Telecommunication Cable Infrastructure in South Asia.*

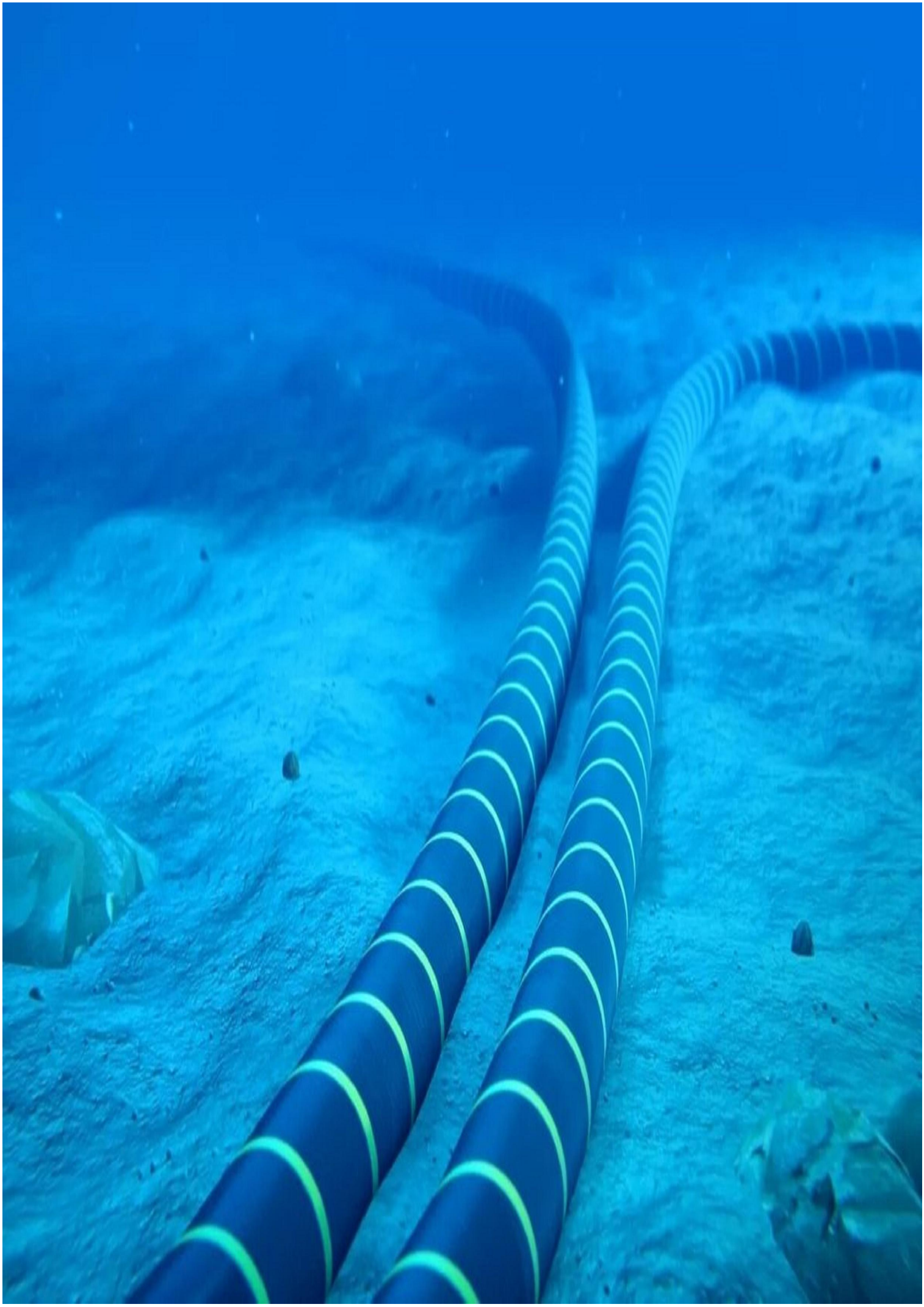
agency, supervisions and review of submarine cables would, to a greater extent, remain poor. There is a critical need to improve the practice of permits in India by making a consistent effort in recognizing the need for a pragmatic cable repair system. A legal regime that is unique to operations, protection and repair of submarine cables must be enacted such that a specific set of regulations and procedures are adopted and agreed upon by the central and the local authorities, being distinct from India's other marine interests.

It is reasonable that India being a coastal state is sensitive about the presence of a foreign vessel including cable ships in its territorial waters and the EEZ that might indulge in exploitation and exploration activities and the same would raise a matter of security concern and a threat to its coastal and national interests. However, it is imperative that such measures be addressed through a cooperative and integrative approach, through the formulation of a common supervisory mechanism. India must exploit its strategic position in the Indian Ocean Region by establishing a regional cable committee unique to subsea cables to assess and associate by facilitating expedite the process in permit requirements from coastal states. Hence, a common platform to address instruments of law and practice by extending cooperation through. Consultation would provide both the government as well as the cable companies an integrated method to look into associated challenges.

Conclusion

Global connectivity largely depends upon international communications, which is facilitated by underground submarine cables. Presently, the regime on submarine cables in the territorial sea and the EEZ is grossly neglected by both International and National laws. The breadth and value of the Indian economy created a sizable demand for bandwidth and submarine cables. However, its cumbersome and complex regulatory regime discourages cable operators to install and repair subsea cables in the coast of India.

Therefore, a deliberate and conscious effort must be made in improving the procedural compliance regime for cable repairs and installation mechanisms. Accordingly, the regime on cable operations, repair and infrastructure requires close analysis on the issue. This can be achieved by seeking uniformity in regulatory practices by establishing a regional committee that looks into the cooperation and consultation of both the cable operators and the government authorities/ regulators. This uniformity would establish a supportive mechanism under which the operations and activities related to submarine cables would run smoothly. Hence, with India's capability to become a potential global superpower, it is important that India recognizes the need for a submarine cable infrastructure and take measures necessary in pursuit of the same. It must take heed of the regional and strategic privilege of being located in the Indian Ocean and must become a host country to generate a common platform for the stakeholders in the submarine cable industry. Hence, planned and prudent mechanisms would help India fulfil its ambitions in the field of global telecommunication.



India's Path Towards Solar Power Development: A Detailed Analysis

Mr. Shivaditya Gunin[*] and Mr. Karan Vin[**]

ABSTRACT

Climate change has substantially impacted the lives and ecosystem of the world. One of the causes for this accelerated change in climatic conditions has to be attributed largely to the pollution caused by the burning of carbon. The need for a cleaner fuel or a cleaner alternative is at its peak. Thus, renewable sources of producing energy were tipped to be the next big thing to cut down carbon utilization and thereby having a substantial impact. The paper tries to highlight how renewable sources of energy such as solar, wind, hydro, etc. are being adopted by nations as a substitute to carbon and to meet their increasing power requirements. We try to highlight the changes taking place in the arena of solar power and how India is making rapid progress with the development of solar energy by establishing significant infrastructure and setting healthy targets to ensure it meets its energy requirement and become a global leader in this arena. We also highlight the economic factors associated with solar power generation in India and the problems faced by the growth of the Industry. Lastly, an important barrier in the form of Covid-19 which has impacted these solar power projects has also been discussed looking at its medium and long term impact on the industry.

Keywords: **Solar Power, PSUs, Renewable Energy**

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Introduction

The topic of climate change has been a hot area of discussion in the global community in the last few decades. The environmental conditions have deteriorated globally and the biggest contributor to this damage has been the greenhouse gases, specifically carbon dioxide which has resulted in the average temperature of the globe rising significantly. To combat this deterioration, many countries are trying to put a limit on the emission of these greenhouse gases.

However, the important question is how to implement a safe and efficient way of reducing these emissions? The answer lies in finding alternative sources of sustainable energy and cutting on the usage of carbon and its products. Production of energy, for the power sector, has been one of the major causes for the generation of carbon waste in the atmosphere.

In the past few decades, several viable alternatives in the form of renewable resources have come up and they have been implemented. One such source is Solar Energy which has gained popularity across various countries. The production of solar energy takes place through *Solar Photovoltaic (SPV) technique or Concentrated Solar Power (CSP)*. Since the power crunch is a global issue, the Indian government is trying to make its contribution to the same as well. One such initiative is the *Jawaharlal Nehru National Solar Mission (JNNSM)*.

The Government of India along with the PSUs has played an important role in the development of renewable energy in India. The legislations implemented by the Government ensure that renewable sources of energy are promoted in India and the beneficiaries are not just limited to the urban and semi-urban areas but it is also benefitting the rural areas in India. The PSUs in India have committed heavily to the development of solar power generation and key partnership with the private sector in the coming years can benefit the whole process and ensure speedy implementation.

The economics of such investment in solar power is also viable as it helps boost India's economy and also puts India in a position of being a global leader in this sector. However, there are some limitations and challenges that the project faces and it is upon the Government to play a major role in ensuring that these challenges can be dismissed at the earliest. The biggest challenge that the power sector is facing is from the unprecedented impact of the global pandemic leaving a certain medium and long term impact on the project have also been discussed.

Solar Power Scenario in India

India at a national level understands the importance of energy and its production. Having said this, it does not mean that importance is not given to the economy and ecology. Its renewable energy sector is the fourth most attractive renewable energy market in the world.[1] It has come to realize that the production of energy through renewable sources of energy such as solar power is efficient, ecological and economical in the long run.

[1] EY, https://www.ey.com/en_gl/recai (last visited Apr. 28, 2021).

The Ministry of New and Renewable Energy, under the supervision of the Government of India, has outlined an action plan to achieve a total capacity of 60 GW from hydropower and 227 GW from other Renewable Energy Sources by March 2022; this includes 114 GW from solar power, 67 GW from wind power, 10 GW from biomass power and 5 GW from small hydropower. The Government plans to establish a renewable energy capacity of 500 GW by 2030. This is proving to be the major thrust for the sector as the market players have enough incentives to move towards a cleaner source. The Government is aiming to achieve 225 GW of renewable energy capacity by 2022, much ahead of its target of 175 GW as per the Paris Agreement. Under Union Budget 2019-20, the Government allocated Rs. 4,272.16 crores (USD 611.26 million) for grid-interactive renewable energy schemes and projects, and Rs. 3,004.90 crores (USD 416.48 million) for the development of solar power projects, including grid-interactive, off-grid and decentralised categories. A total of 42 solar parks were approved to come up by May 2019.[2]

The process of solar power generation can be difficult due to the requirement of space, research & development in the field. However, the geographical location of India gives an added advantage in receiving enough solar insulation to convert to solar power. The State of Rajasthan in India has a huge geographical advantage and as many as 722 reputed companies have already registered interest in setting up solar power plants.[3] India has been building a solar power plant in Rajasthan since 2019, which will be the world's largest with a capacity of 2,255 MW. India plans to add 30 GW of renewable energy capacity along the deserts on its western border of Gujarat and Rajasthan.[4] One of the key policies of the Indian Government to promote solar power is the JNNSM and according to this project around 1800 MW of grid-associated Solar Tower plant could be installed by the year 2022.[5]

Government's Legislative Role in Solar Power Development

The promotion of renewable energy is an important step in making renewable energy the "new normal source of energy". The best way of achieving the goal of making renewable energy a more efficient source of energy is through promoting the several initiatives and legislations instituted by the Government of India. The Electricity Act 2003, National Electricity Policy 2005, National Rural Electrification Policy 2006, National Tariff Policy 2006, Jawaharlal Nehru National Solar Mission (JNNSM) etc. were passed with the purpose of promoting and recognizing the importance of renewable energy sources.

The regulation of the Electricity Act 2003 mandates the promotion of renewable energy sources and recognizes trading, co-generation as a separate activity and it has guided in a competitive generation in the Indian power sector.[6] It gives the Central Government the power to develop a national policy for optimal utilization of resources including

[2] IBEF, https://www.ibef.org/industry/renewable-energy-presentation (last visited Apr. 28, 2021).
[3] S. Pandey, V.K. Singh, N.P. Gangwar, M.M. Vijayvergia, C. Prakash, D.N. Pandey, *Determinants of success for promoting solar energy in Rajasthan, India*, 16 ELSEVIER 3593, 3593-3598 (2012), https://www.sciencedirect.com/science/article/abs/pii/S1364032112001955.
[4] *Supra* note 2.
[5] Gopalakrishnan Srilakshmi, Venkatesh N.C, Thirumalai Suresh N.S., *Challenges and opportunities for Solar Tower technology in India,* 45 RENEW SUSTAIN ENERGY REV, 698–709 (2015).
[6] A. Singh, *Towards a competitive market for electricity and consumer choice in the Indian power sector*, 38 ENERGY POLICY, 4196-4208 (2010).

Renewable Energy.[7] Section 82 of the Act[8], empowers the state to establish a State Electricity Regulatory Commissions (SERC) where these commissions are given the power to promote and find the more efficient method of generation and cogeneration of power and electricity[9]. The commissions also make the decisions regarding the tariffs and distribution of licenses.[10]

When it comes to efficiently using renewable sources for power generation and usage of the same, there has to be a plan for the distribution of the energy as well. Therefore, National Electricity Policy (NEP) 2005 came up with the plan in conversation with the companies. Basically, by communicating with the companies there is just a better method of energy supply and power distribution. This particular policy has allowed the entry of private players in the field of renewable energy. This policy undergoes changes as and when deemed fit by the Central Government. The NEP came up in compliance with Section 3 of the Electricity Act 2003. The policies are framed after discussing with the Central Electricity Authority.

The National Tariff Policy was announced in 2006 and it has played a significant role in promoting renewable energy sources followed by Section 86(1)(e) of the Electricity Act, 2003. It instructs each State Electricity Regulatory Commission to determine Renewable Energy Purchase Obligations by distribution licensees within a period of time.

The National Rural Electrification Policies 2006 permitted stand-alone systems using renewable energy sources. It is targeted to supply electricity to all households, supplying reliable and quality power at reasonable rates. In villages where grid connectivity was not possible, the off-grid solution with stand-alone renewable systems may be used for electricity supply.[11] The Indian government also launched the "*Deendayal Upadhyaya Gram Jyoti Yojana" for rural electrification*". The move aimed to make sure that all the rural areas also have access to electricity.[12]

The State Electricity Boards and corresponding agencies or organizations play a leading role in the execution of renewable energy at the state-level. Various state-level policies that are different and independent from several national-level policies are also promoting solar power as a renewable energy source.[13]

Role of PSUs in Solar Power Development

India is aiming really high when it comes to replacing the traditional energy sources with new and renewable energy sources. It is the third-largest producer and second-largest consumer of electricity in the world. Its electricity requirements are met by

[7] Electricity Act, 2003, § 3, No. 32, Acts of Parliament, 2003 (India).
[8] *Ibid*.
[9] *Ibid*.
[10] *Ibid*.
[11] N.K. Sharma, P.K. Tiwari, Y.r. Sood, *A comprehensive analysis of strategies, policies and development of hydro-power in India: special emphasis on small hydro power,* 18 RENEW SUSTAIN ENERGY REV, 460-470 (2013).
[12] POLICERESULTS, https://www.policeresults.com/deen-dayal-upadhyaya-gram-jyoti-yojana-ddugjy/ (last visited Apr. 29, 2021).
[13] N.K. Sharma, P.K. Tiwari, Y.R. Sood, *Solar Energy in India: strategies, policies, perspectives and future potential,* 16(1) RENEW SUSTAIN ENERGY REV, 933-941 (2012).

conventional power generation sources such as coal, lignite, natural gas, oil, hydro and nuclear power to the viable non-conventional sources such as wind, solar, agriculture and domestic waste.[14] As of 31st March 2021, it has an installed power capacity of 382.151 GW.[15] This capacity further increases in peak seasons thus making the transition towards renewable energy even more challenging.

Thus, to achieve a smooth transition, the role of the Public-Sector Undertakings (PSUs) has become very crucial and fittingly, some of the biggest PSUs in India have dived right in to ease India's transition process. PSUs such as the National Thermal Power Corporation (NTPC) plans to have a minimum capacity of 30 GW from solar power by 2032. Another PSU known as National Hydroelectric Power Corporation (NHCP) has some of the most ambitious plans for floating solar plants aiming for a 1 GW plus target in states including Odisha and Telangana. The Neyveli Lignite Corporation Limited (NLC) which is another major PSU that already has a capacity of 1.37 GW from solar power has commissioned a 440 MW SPV power plant Neyveli which will result in an overall power generation capacity of 3.73 GW.[16]

Other PSUs include the Social Energy Corporation of India (SECI), aimed at the promotion of solar power in India on a large scale. Of late, the SECI has been mainly involved in the implementation of JNNSM. The SECI is the body that is central to the operation and management of solar power rooftop grids. The promotion of solar power in rural areas is also an important task that is carried out by the SECI. The vision of SECI as an organization is that of a *"Green India"* through tapping solar radiation and executing energy security for India.[17]

Institutions such as Indian Renewable Energy Development Agency (IREDA) were set up to promote and develop financial support for new energy conservation projects. By financing renewable energy, the IREDA aims to make an expansion of the market share of renewable energy. They also provide continuous customer services for the improvement of the facilities and processes. The National Institute of Solar Energy, another organization under the MNRE plays an important role in testing new facilities and researching and developing new techniques for solar power generation.

Economics of Solar Power Development in India

Amidst the major environmental debates that have sparked across the world, it is now understood and a well-known fact that environment and electricity generation will have to go hand in hand. The traditionally used sources of electricity such as fossil fuels are no longer commercially viable and at the same time have irreversible consequences on the environment.

By capitalizing on renewable energy sources, India has come to realize that it is cheaper to build solar power farms than to build more coal-based power plants. Since 2010 there have been various contributions in the field of solar power generation and attempts have been made to maximize the outputs. In 2010, the total installed solar

[14] Neha Sharma, *The top 5 PSUs with Big Solar Plans for India,* Saur Energy Intl. (Apr.30, 2021, 10:15 PM), https://www.saurenergy.com/solar-energy-blog/the-top-5-psus-with-big-solar-plans-for-india.
[15] NATIONAL POWER PORTAL, https://npp.gov.in/publishedReports (last visited May 10, 2021).
[16] *Supra* note 14.
[17] PSU CONNECT, https://www.psuconnect.in/company/solar-energy-corporation-of-india/69 (last visited Apr. 28, 2021).

capacity was 10 MW and in 2016, the installed capacity stood at 6000 MW - a steep climb of 600 times in just 6 years.[18] The government has set the target that by 2022 the power production through renewable energy will be 38% thereby increasing up to 100 GW. Since the government has seen the potential that renewable energy has, it made significant investments in the same direction and India has managed to reach the economies of scale very quickly and therefore become one of the cheapest producers of solar energy.

We need to also understand the fact that several technologies that are central to the production of energy through renewable sources, more importantly, solar energy, are still imported from various countries. For the past three financial years FY17, FY18, and FY19 the total value of the country's solar imports were USD 3,196.5 million, USD 3,837.6 million, and USD 2,159.7 million, respectively.[19] Thus, somewhere the production of energy through renewable sources results in huge costs for the projects. In the recent turn of events, the fact that investing in solar power in India is now very cheap since investments are welcomed. As a result, India is standing on the brink of a renewable energy revolution.

Contributing to the above-mentioned point, it is important to focus on the fact that recent investments and economic boosts under the *Atma Nirbhar Bharat* model have resulted in the internalization of several technologies involved in solar power generation. In fact, in 2020, 100 GGW was obtained through solar energy.[20] The boosts and capitalization on the technologies made sure that India's dependence on importing technologies goes down and slowly all the processes are internalized. According to the International Renewable Energy Agency (IRENA), "the Indian solar sector created 115,000 employment opportunities in 2018."[21]

Thus, the generation of solar energy in India is viable in economic terms both in terms of investment and employment opportunities; it will not be an easy shift from the traditional energy sources. Several problems are being encountered in this journey towards cutting carbon consumption. Some of these major issues are:

- The first and foremost issue that India faces is the utilization of land for large scale solar projects. India has a problem of land scarcity along with lengthy and complicated land acquisition legislations and whatever patches of land that may be available are not fit for solar power plants due to their geography and exposure to sunlight.
- Although India is trying to make sure that the promotion of solar energy is wide-scale, the progress in the field is still a little slow. As mentioned before there is a

[18] Manu Karan, *How India in a short period of time has become the cheapest producer of solar power*, THE ECO. TIMES (May 5, 2021, 9:29 PM), https://economictimes.indiatimes.com/small-biz/productline/power-generation/how-india-in-a-short-period-of-time-has-become-the-cheapest-producer-of-solar-power/articleshow/70325301.cms?from=mdr

[19] ENERGYWORLD.COM, https://energy.economictimes.indiatimes.com/news/renewable/india-imported-solar-power-equipment-worth-1180-mn-from-china-in-apr-dec-fy20/74493914 (last visited (May 5, 2021, 9:52 PM).

[20] Gautam Das, *Solar boosts India's economic growth,* TOI (May 5, 2021, 10:17 PM), https://timesofindia.indiatimes.com/blogs/voices/solar-boosts-indias-economic-growth/

[21] *Ibid.*

lack of skilled labour for developing solar power technologies and manufacturing the same.
- Since the projects are very different in size, i.e. domestic rooftops projects on one end and the large solar power plants on the other hand. The biggest drawback to this disparity in terms of the size of projects is the fragmentation of solar power market players. Those players involved in large scale projects may be able to reach their break-even point but those involved in small scale projects, may not be able to survive the market since imports are an integral part of the industry.

Yes, there are problems but the solutions follow up closely. Some suggestions are as follows:

- Land acquisition laws need to be relaxed and the Government has to play a formidable role in ensuring that the scheduled projects do not get delayed due to land hindrances. It has to ensure that the people who are being relocated are given adequate compensation and if possible one member from their family can be given jobs at these power project sites.
- The other major focus has to be on the distribution of the projects. As mentioned, since there is a big disparity in terms of project sizes, one of the important steps to consider is that for a large project the tender should not be given to one player only. Large scale project orders should be distributed among many manufacturers. This is a way of load sharing and generation of collective profits.
- A decisive role will be played by the investments as an attempt to localize the manufacturing process and to include skilled and unskilled labour practices.
- In order to kick start the renewable energy market expansion there initially needs to be more partnerships between the Governments and the International players.

From an economic standpoint, if investments are made in solar power, the break-even is expected to be achieved in 2-5 years and the annual saving of the consumers will be around 25% or more. Over a longer period of time, if we harness solar power and use it efficiently as a power source we are looking at an industry worth trillions of dollars. Therefore, solar power is both economically and ecologically viable.

The Largest Solar Power Parks in India

India has ramped up its solar power production in recent years and the nation is now home to some of the largest power plants in India. The Country's National Solar Mission was launched in 2010 – when just 10 (megawatts) MW of solar power was installed on the grid – with a target of 20 GW set for 2020.[22] Some of the largest solar power plants in India are as follows:

1. Bhadla Solar Power (*2,250 MW*): This solar power plant which is based in Rajasthan is the largest solar power plant in the world which is based in Jodhpur, Rajasthan. It spans over an area of 14,000 acres and is a fully operational power plant.
2. Shakti Sthala Solar Power Project (*2,050 MW*): This is the second-largest solar power park in India which is located in Karnataka and spans over an area of 13,000

[22] Shankar Besta, *Profiling the five largest solar power plants in India*, NS ENERGY (May 5, 2021, 10:17 PM), https://www.nsenergybusiness.com/features/largest-solar-power-plants-india/

acres of land. This project has reportedly benefited 2,300 farmers who have previously fallen victim to the region being located in a semi-arid tract that attracts very little rainfall.

3. Ultra Mega Solar Park (*1,000 MW*): This power park is located in Andhra Pradesh spans an area of more than 5,932 acres and is the third-largest power plant at a single location. It was set up at an investment of more than Rs. 7,143 crores (USD 943 million).
4. Rewa Solar Power Project (*750 MW*): The project located in Madhya Pradesh is spread over an area of 1,590 acres and is one of the major power suppliers to the Delhi Metro. It is the country's first and only solar project until now to be funded from the Clean Technology Fund and also India's only solar power plant to obtain a concessional loan from the World Bank's International Finance Corporation.
5. Kamuthi Solar Power Plant (*648 MW*): The solar power plant located in Tamil Nadu is the fifth largest power plant of its kind covering an area of 2,500 acres and was set up in 2016 with an investment of Rs. 4550 crores (USD 601 million). The plant is cleaned by a robotic system every day and has its own solar panels to charge it. The State Government's target is to achieve an installed capacity of 3,000 MW.

Government's Target for Achieving Solar Power in India by 2022

The National Institute of Solar Energy has assessed the Country's social potential of about 748 GW assuming 3% of the wasteland area to be covered by Solar PV modules. Solar energy has taken a central place in India's National Action Plan on Climate Change with the National Solar Mission as one of the key Missions. National Solar Mission (NSM) launched on 11th January, 2010 was a major initiative of the Government of India with active participation from States to promote ecologically sustainable growth while addressing India's energy security challenges. It will also constitute a major contribution by India to the global effort to meet the challenges of climate change. The Mission's objective is to establish India as a global leader in solar energy by creating the policy conditions for solar technology diffusion across the country as quickly as possible. The Mission targets installing 100 GW grid-connected solar power plants by the year 2022. This is in line with India's Intended Nationally Determined Contributions (INDCs) target to achieve about 40 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources and to reduce the emission intensity of its GDP by 33 to 35 per cent from the 2005 level by 2030.[23]

The Government of India has launched the development of Solar Parks and Ultra Mega Solar Power Projects which has enhanced the capacity from 20,000 MW to 40,000 MW and these parks are to be set up by 2021-22. The Ministry provides Central Financial Assistance of up to Rs. 20.00 lakh per MW or 30% of the project cost. A scheme for setting up of over 5000 MW Grid-connected SPV power projects under IV of JNNSM Phase-II, setting up of distributed Grid-Connected Solar PV Power Projects in Andaman & Nicobar and Lakshadweep Islands with Capital Subsidy from MNRE, setting up of Central Public Sector Undertaking (CPSU) Scheme Phase-II (Government Producer Scheme) for setting up of 12,000 MW grid-connected SPV Power Projects by

[23] GOVERNMENT OF INDIA MINISTRY OF NEW AND RENEWABLE ENERGY, https://mnre.gov.in/solar/current-status/ (last visited May. 05, 2021).

the Government Producers with Viability Gap Funding support for self-use or use by Government/Government entities, either directly or through Distribution Companies (DISCOMS). A Grid-Connected Solar Rooftop project is also under process for a cumulative capacity of 40,000 MW by the year 2022.[24]

Limitations Of Solar Power Development In India

While solar power is an efficient alternate power source in India, there are certain limitations and bumps along the way harnessing this renewable source of energy. As discussed earlier in this paper, the production of solar energy takes place through Solar Photovoltaic (SPV) technique or Concentrated Solar Power (CSP). These techniques of harnessing solar energy are very expensive and economically not viable.

Also the technologies involved in the development of solar power are very advanced and extremely sophisticated. The technologies in this field are ever-changing and the players who are already well established in this market do not allow the new entrants a survival chance since reciprocation of their success is difficult. Furthermore, the main aspect is that the R&D related to solar power is not yet developed in India. All the foreign facilities and assistance received have thus made the process all the more economically unviable.

One major issue facing the harnessing of renewable energy is the land requirement. Setting up solar plants requires a vast area of land to be used. Since the investments are too high in purchasing such vast areas of land and the returns are uncertain, the parties interested in developing solar energy are few and unwilling to make such big investments. Also, building upon the point, clearing such a vast area of land has large scale environmental costs. In addition to this, the land allocation process in India is fairly long and incurs a lot of legal costs.[25]

Impact of Covid-19 on the Solar Industry in India

The global economy went into a state of shock due to the measures put in place across countries to ensure the containment of the COVID-19 pandemic. The confinement of business activities due to the pandemic and the strict imposition of lockdowns and restrictions have created an unprecedented crisis in modern times and similarly, the solar industry has not been left untouched. The targets set up by the Government of India will be seriously impacted in the short and long term due to the impact of COVID-19 on the economy. The immediate challenges include shortage of manpower for developing solar infrastructure, lack of equipment and delay in delivery of certain products due to irregular transportation and decrease in the number of users whose pockets have also been impacted by this unprecedented crisis.

At present the Indian Solar Industry imports almost 80 per cent of its major value chain supplies from China which as per April-December Financial Year 2020 was estimated at around USD 1,180 million.[26] The pandemic has affected the manufacturing capacities of China, as all major ship container companies had also stopped functioning

[24] *Ibid*.
[25] S. Dawn, P.K. Tiwari, A.K. Goswami & M.K. Mishra, *Recent developments of Solar Energy in India: Perspectives, strategies and future goals*, 62 R&S ENERGY REV. 216, 233 (2016), https://www.sciencedirect.com/science/article/abs/pii/S1364032116300570?via%3Dihub
[26] *Supra* note 19.

out of Chinese ports and transporting goods from China to other countries, including India.[27] The government has already clarified that disruption of supply chains due to the spread of corona-virus in China or any other country should be considered as a case of natural calamity and force majeure clause may be invoked, wherever considered appropriate, following the due procedure.[28]

Approximately 2.3 GW of the solar plants are running behind schedule as the deadline of commissioning was between June to August as the expected modules have been only supplied since March. Starting July projects worth over USD 2 billion are at risk of missing scheduled commissioning.[29] Further, the pandemic would have a huge impact on consumer buying behaviour and trends since the pockets of the common man have also been impacted and switching to a cleaner source of energy at this point would be unlikely to be a top priority in the long run. Hence, an economic stimulus along with several reforms has to be brought in by the Government if it wants to move gradually on the path of cutting carbon consumption. The decisions that the Government takes in the coming years will be very important to determine India's true commitment to the Global Community.

Conclusion

The need for a cleaner fuel or an alternative is now more than ever. India which strives to be a major player in the global economy has implemented several developmental schemes in various sectors. This has in turn, led to enormous energy demand and to maintain that progress, enormous additions in the energy sector have to be made. Considering the large potential, easy availability and other inherent characteristics of solar power, the Government of India has given more emphasis on the promotion of solar power in the Indian power scenario. In this paper, the authors have mapped the various legal institutions and their functions in making sure that the power crunch faced in the future does not hinder the growth of the country. The government has ensured that there is the smooth functioning of these institutions to oversee the efficient functioning of these solar power specific legislations and policies in place.

It is a fact that the road in curbing the power crunch of India is not going to be an easy task but this paper has shown that India is ready to take upon itself the responsibilities of figuring a way out. Solar power can also provide a better economic scenario after successful implementation of solar mission for all states of India, especially for some undeveloped states, where the potential of solar power generation is very good but has not utilized till date. There are hiccups along the way and India has to find a way to internalize all the technologies and the know-how for developing solar power, to make it cost-effective. There are various government projects underway to harness solar power and more and more players are playing a key role in the solar power market. This being said, India has come a long way and soon will be the World pioneer in harnessing solar energy and developing the technologies for the same.

[27] Gagan Vermani, *The short and long term impact of the Coronavirus (COVID-19) on the Solar Industry*, THE ECO. TIMES (May 7, 2021, 5:35 PM), https://energy.economictimes.indiatimes.com/energy-speak/the-short-and-long-term-impact-of-the-coronavirus-covid-19-on-the-solar-industry/4292

[28] MINISTRY OF DEFENCE (FINANCE), https://cgda.nic.in/ifa/circulars/IFA_120_15072020.pdf (last visited May 8, 2021).

[29] *Supra* note 27.

Non-Arbitrability of Infrastructure Debts: One Step Forward, Two Steps Back

Mr. Prakshit Baid*

ABSTRACT

Infrastructure financing in India has been on the downturn since the IL&FS crisis struck in 2018, and has worsened with the Covid-19 pandemic. Infrastructure lenders are weary of financing Special Purpose Vehicles (SPVs) set up to construct large-scale infrastructure and projects, particularly because of the high investment values involved. To add fuel to the fire, lenders are frightened at the thought of loan defaults by such SPVs in the event the SPV is unable to generate sufficient cash-flows to repay its loans or due to cost overruns and delays. To secure lenders from this anomaly, the law provides for Debt Recovery Tribunals (DRTs) and civil courts which can attach and auction assets of the defaulter. Although the DRTs have proven to be gradualist in debt recoveries, this has, amongst other consequences, caused parties to be strongly driven to pursue other forms of dispute resolution like arbitration. This pursuit of alternative forms has been the case until the Supreme Court of India's (SC) recent ruling in Drolia[1], which came up with significant transformations on the issue of arbitrability of debt recovery disputes.

Key Words: Non-Arbitrability, Debt, Project Finance, Financial Bottlenecks

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[1] Vidya Drolia v. Durga Trading Corporation, (2021) 2 SCC 1.

Introduction

Infrastructure development is the pivotal engine without which any national economy cannot be steered. Infrastructure like airports, roads, railways, energy, ports, telecom, etc. form a significant part of India's growth story. More importantly, financing such projects is a sine qua non in establishing sustainable economic growth. Realizing this, the Indian Prime Minister Narendra Modi unveiled the National Infrastructure Pipeline (NIP) for FY 2019-25, allocating an initial sum of INR 100 lakh crores to be expended on social and economic infrastructure projects across the country. Following this announcement in August 2019, the 2021 Budget saw the largest ever outlay being allocated to the infrastructure sector – with INR 5.54 lakh crores going as investments towards the capital-intensive sector.[2]

Evidently, there is an increased impetus in India for the development of the infrastructure sector. However, over the years, what has also followed along with the growth of this capital-intensive industry is the rise of disputes. More often than not, lenders and financial institutions who advance credit and assume significant financial risks are found struggling to recover their own legitimate dues owed to them by defaulting borrowers or SPVs. To insulate itself from these risks, lenders and institutions have adequate measures such as bank guarantees and collateral securities which form a standard part of project financing contracts. However, certain operational risks like operational & maintenance (O&M) issues or demand risks like reduced sales of off-take leading to reduced cash flows may hinder repayment obligations of the SPV, thus driving the matter into what is often a long-drawn dispute. The other principal cause of infrastructure disputes stems from construction delays which in turn leads to cost overruns, consequently diminishing investor returns for the lenders and institutions.

To tackle with these risks as a creditor, lenders are often not so stretched in terms of remedies available to them to recover their dues. Until now, lenders have had limited yet woefully lengthy remedies at their disposal – some of them include civil litigation, Debt Recovery Tribunals (DRTs) and on the other hand, quick resolution processes like arbitration too. Amongst these, lenders have a natural and increasingly strong inclination towards arbitration as a mode of resolving debt recovery disputes relating to the infrastructure sector. This is primarily because the DRTs and civil courts have been drowning in ever-increasing pendency, vacancies, lack of competent administrative and judicial staff, etc. However, this remedy of invoking arbitration has been altered in disputes involving debt recovery by the Supreme Court ruling of *Vidya Drolia v. Durga Trading Corporation*[3]. It is argued by the author that this alteration by the Hon'ble Court is tenuous and unfounded and needs reversal.

Arbitrability of Debt Recovery Disputes: Judicial History

Lenders generally have the option of recovering their dues under civil litigation vide one of two statutes – '*Securitisation & Reconstruction of Financial Assets & Enforcement Act, 2002'* (SARFAESI Act) or '*Recovery Debts due to Banks and*

[2] Abhishek Gupta, *Budget 2021: FM Nirmala Sitharaman gives boost to infrastructure sector*, CNBCTV18 (Feb. 10, 2021 at 06:45AM), https://www.cnbctv18.com/views/budget-2021-fm-nirmala-sitharaman-gives-boost-to-infrastructure-sector-8267831.htm (last visited on May 6, 2021 at 15:40PM)
[3] Vidya Drolia, *Supra* note 1.

Financial Institutions Act, 1993' (DRT Act). Albeit remedies under these Acts often turn out to be lengthy and cumbersome, therefore are not desired by lenders who now prefer to arbitrate.

Nonetheless, arbitration of debt recovery disputes comes with its own legal nuances. The issue of 'arbitrability of debt recovery disputes' stems from the concept of 'debt arbitration', which essentially refers to the process of recovering debt from the borrower, not through litigation under SARFAESI or DRT Acts, but via the alternate mode of dispute resolution, i.e. arbitration. Lenders prefer arbitrating rather than litigating because they would rather choose to amicably settle for a lower recovery amount than to let the borrower slip into bankruptcy and invite more complications the issue of whether such a type of dispute can be arbitrated upon has lingered on for some time now. Indian courts have had the seminal opportunity to clear the air on this issue on more than one occasion now. The issue first came up before the full bench of the Delhi HC in *HDFC Bank Ltd. v. Satpal Singh Bakshi*[4], where the court was tasked with deciding on the issue of arbitrability of debt recovery disputes subject to the exclusive scope and jurisdiction of DRTs established under the DRT Act. The court herein asserted that tribunalization of justice cannot curtail the principle of party autonomy. The court further stated that this exclusive jurisdiction granted to a specialized forum by means of a legislation only waives civil jurisdiction, and certainly does not imply non-arbitrability of such disputes as an automatic consequence. In holding so, the court reiterated that claims lacking the feature of public interest and instead arising out of disputes in personam would be capable of being arbitrated.

The Supreme Court has referred to the Delhi HC's decision in *HDFC Bank Ltd.* case in the case of *M.D. Frozen Foods Exports Private Limited v. Hero Fincorp Ltd.*[5] to hold those enforcement proceedings to recover debts under Acts like SARFAESI and DRT can run simultaneously with adjudicatory proceedings like arbitration.[6] Albeit, it may be pertinent to note that the Supreme Court did not explicitly deal with the issue of arbitrability of debt recovery disputes falling under the exclusive jurisdiction of either SARFAESI or DRT Acts.

Vidya Drolia: Unruly Horse in Chinatown

The Supreme Court was recently presented with deciding a similar issue again based on the arbitrability of, inter alia, debt recovery disputes under the DRT Act. In the case of *Vidya Drolia v. Durga Trading Corporation*[7], a tenant refused to vacate the premises of the landlord after the expiry of the lease period of 10 years, as agreed in the lease agreement which also consisted of an arbitration clause. Consequently, the landlord sent a notice to the tenant invoking arbitration proceedings u/S 11 of the Arbitration Act for the appointment of an arbitrator. The Calcutta HC refused to entertain the tenant's objections of landlord-tenant disputes being non-arbitrable and referred the matter to arbitration. At that time, in a separate case of *Himangni Enterprises*[8], the Supreme Court held that landlord-tenancy disputes governed by the '*Transfer of Property Act, 1882*' ("TPA") are non-arbitrable. Thereafter, the matter in *Vidya Drolia*

[4] 2013 (134) DRJ 566.
[5] (2017) 16 SCC 741.
[6] *Id.*at ¶33 and ¶34.
[7] Vidya Drolia, *Supra* note 1.
[8] Himangni Enterprises v. Kamaljeet Singh Ahluwalia, (2017) 10 SCC 706.

case was preferred to a two-judge bench of the SC, which in turn referred the case to a larger bench of the SC, citing its differences with the ruling in *Himangni Enterprises*.

Placed before a three-judge bench of the Supreme Court, the primary issue was whether landlord-tenant disputes subject to TPA could be arbitrated upon under the '*Arbitration and Conciliation Act, 1996*' (Arbitration Act). In its 243 page judgement, the court also oscillated on the issue of arbitrability of debt recovery disputes under the DRT Act. The Court first formulated a four-fold test of arbitrability, which would then be applied against the issue to decide whether a particular subject matter can be arbitrated upon or not.

The four-fold test holds that a dispute cannot be arbitrated upon when:
1. *"It relates to actions in rem;*
2. *it affects third party rights and requires centralized adjudication;*
3. *it relates to the inalienable sovereign and public interest functions of the state; and*
4. *it is expressly or by necessary implication non-arbitrable as per mandatory statute(s)."*

The court then referred to the Delhi HC ruling in *HDFC Bank Ltd* case[9] to hold that the Delhi HC did not pay heed to the fact that although disputes arising out of actions *in personam* could be arbitrated upon, non-arbitrability may surface where there exists implicit prohibition in the statute, which confers special rights to be adjudicated by the courts or public fora, whose enforcement would not be possible through arbitration. Furthermore, banks and financial institutions would be denied their statutory rights and modes of recovery accorded to them if claims under the DRT Act were held to be arbitrable. The Court concluded by holding that since the non-obstante clause of the statute had overwritten the parties' contractual right to arbitration, debt recovery claims covered under the DRT Act cannot be arbitrated upon as waiving off the jurisdiction of the DRT is prohibited by necessary implication.

Vidya Drolia: Critique Against Exclusivity

The *Vidya Drolia* judgement by the Supreme Court clears the air over certain practical issues of arbitrability which could expedite access to justice when it comes to landlord-tenancy arbitration.[10] However, the author points out how this could potentially pan out in a negative way for lenders when it comes to infrastructure debt recoveries.

It is argued that the four-fold test in *Vidya Drolia* is tenuous and questionably unconvincing in cases of debt recovery disputes.

Firstly, disputes involving debt recoveries are concerned with the lender(s) and one or more borrowers, thereby lacking any element of a public nature. Such disputes *in personam* can certainly be arbitrated upon. The same was also acknowledged by the court in *Vidya Drolia*.

[9] HDFC Bank, *Supra* note 4.
[10] Jigar Parmar, *A Recent Judgment on Arbitration of Tenancy Disputes has the Potential to Expedite Access to Justice*, Vidhi Centre for Legal Policy (Jan. 22, 2021), https://vidhilegalpolicy.in/blog/a-recent-judgment-on-arbitration-of-tenancy-disputes-has-the-potential-to-expedite-access-to-justice/ (last visited on May 7, 2021 at 15:58PM)

Secondly, the judgment observed that factors like "*examining the text of the statute, its legislative history, or any inherent conflict between arbitration and the statute's underlying purpose*" need to be considered to determine 'necessary implication'[11] and to ensure that no repugnancy exists between the legislation and arbitration as an alternative. It is argued that the drafters of the DRT Act could not have possibly intended to oust the jurisdiction of arbitral tribunals, as the legislative object of the Act was to expeditiously adjudicate upon debt recovery disputes.

Thirdly, arbitration can, in fact, complement such modes of dispute recovery. It is also simultaneously argued that such legislation does not bestow any special rights or obligations, as the primary object of that legislation was to ensure effective and expeditious resolution of debt recovery disputes.[12] The fulfilment of this object, on its own, does not grant any special rights or obligations to the parties.

Fourthly, N.V. Ramana, J. held in a separate opinion that "The legislative intention of not arbitrating issues of public policy are intertwined with the fact that monopolies of the State activities should not be a subject matter of a private tribunal, as the concerns of the State cannot be dealt effectively."[13] However, it is again contended that since these disputes are of a personal nature and the DRT Act does not affect public welfare at large, such claims are arbitrable.[14]

It is not in dispute that the DRTs have been laggard as a mode of dispute resolution for debt recovery disputes, and more so in the infrastructure sector, for the following inter-connected reasons.

Burgeoning Pendency

The primary objective of the DRT Act was speedy disposal of debt recovery disputes. The Deshpande Committee Report directs that no more than 30 cases should be listed on board for any given day and no more than 800 cases should be pending at any given time before the Presiding Officer (PO) of DRTs.[15] Far from that, the pendency has only mushroomed over the years with thousands of cases pending before DRTs at any given time. In fact, DRT (Chennai) disposed of a 1997 debt recovery application in 2020, after an astonishing 23 years.[16]

Stalling by Large Borrowers

In the early years, DRTs showed efficacy in recovering considerable amounts of bad debts, but the progress faltered when it came to large, powerful and influential borrowers who delayed trials on several grounds, including res judicata defences against impending cases in civil courts.

[11] Vidya Drolia, *Supra* note 1 at ¶34.
[12] Narsimham Committee-I Report (1991), Ministry of Finance – Govt. of India.
[13] Vidya Drolia, *Supra* note 1 at ¶50.
[14] In contrast, disputes under legislations like Hindu Marriage Act or Prevention of Sexual Harassment at Workplace Act are examples of welfare legislation over which the State has monopoly, and therefore cannot be privately arbitrated upon.
[15] N.V. Deshpande, Principal Legal Advisor of RBI, '*Working Group to Review the functioning of DRTs*' Report, p. 13.
[16] Law Commission of India, *Assessment of Statutory Frameworks of Tribunals in India*, Report No.272 (October 2017).

Lack Of Competent Appointments

Post judgements being passed by DRTs, security interest needs to be enforced by the Recovery Officers (RO). However, the lack of qualified ROs lacking competence and knowledge in due legal process is hurting enforcement proceedings.[17] This, coupled with adjudicatory and administrative vacancies across DRTs, has slowed down the dispute resolution process at DRTs.

Lack Of Timely Resolution

According to a 2019 World Bank report, the Indian judiciary takes an average time of 1.6 years to resolve an insolvency proceeding. In comparison, Japan takes 0.6 years and Singapore, 0.8 years.[18] Although the DRT Act stipulates that the tribunal shall make an endeavour to dispose of the applications within 180 days from its receipt,[19] it is rarely practised.

Asset Value Deterioration

Another fundamental cause of infrastructure disputes ending up in elongated litigations has been the continuous deterioration of the infrastructure assets' value. As endless proceedings take place to resolve debt, the net value of the assets (or national resources, in public projects) owned by the sponsor or the SPV unceasingly keep on diminishing with time and so much so that at times, it becomes an issue to run the SPV as a 'going concern'. In such circumstances, banks and financial institutions are advised to realise the 'going concern' value of the distressed assets in the initial stages, possibly through business mergers and acquisitions or the sale of the SPV itself.

Impact on Infrastructure Debt Recovery Claims: Hurting Lenders?

The consequences of this judgement by the Supreme Court could have ripple effects in the infrastructure financing industry. While the order explicitly bars lenders like banks and financial institutions from recovering their dues before an arbitral tribunal, the same also acts as an impediment categorically for infrastructure lenders from making a recovery claim before an arbitral tribunal and instead compels them to undergo traditional litigation under the DRT Act. In this regard, Justice N.V. Ramana observed:

"*To hold that the claims of banks and financial institutions covered under the DRT Act are arbitrable would deprive and deny these institutions of the specific rights including the modes of recovery specified in the DRT Act. Therefore, the claims covered by the DRT Act are non-arbitrable as there is a prohibition against waiver of jurisdiction of the DRT by necessary implication. The legislation has overwritten the contractual right to arbitration.*"[20]

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[17] R.N. Pradeep, *Set right debt recovery tribunals*, Business Line (Nov. 14, 2012) https://www.thehindubusinessline.com/opinion/set-right-debt-recovery-tribunals/article22995923.ece (last visited on May 7, 2021 at 16:54PM)

[18] World Bank, Doing Business Report on '*Time to resolve Insolvency*' https://data.worldbank.org/indicator/IC.ISV.DURS?end=2019&most_recent_value_desc=false&start=207 (last visited on May 7, 2021 at 17:35PM)

[19] Recovery of Debts due to the Banks and Financial Institutions Act, 1993, §19(24), No. 51, Acts of Parliament, 1993 (India).

[20] Vidya Drolia, *supra* note 1.

Infrastructure lenders have two statutory remedies when it comes to recovering debt from SPVs or project sponsors – under the DRT Act and under the SARFAESI Act. In ordinary cases, lenders can attach movable or immovable property like cars or homes under these Acts, auction them and recover the money. However, when it comes to infrastructural assets and especially so in Public-Private Partnership (PPP) projects, lenders are faced with a stifling and fundamental concern.

In PPP projects, the government (also known as the 'concessioning authority') practically owns infrastructure assets like highways, ports and airports which are kept as security to the lenders. The concession agreements signed between the concessioning authority and the SPV (also known as the 'concessionaire') also explicitly indicate that the infrastructure assets are owned by the concessioning authority. Now, this is problematic for lenders in the event of a default because they are essentially unable to attach government property to recover their debts. Government assets like ports, highways and airports cannot be attached without difficulty and auctioned away. Therefore, the security created inside the government asset would virtually be left meaningless if lenders are not permitted to claim their dues through the attachment of secured assets.

To simplify this through a hypothetical yet relatable example, let us take the Coastal Road Project being built by Larsen & Toubro (L&T) on PPP basis with the Maharashtra Govt. on the shores of Mumbai to connect the city's north and south sides. Let us also assume that the project is being financed by a consortium of several banks, including a Mandated Lead Arranger. Here, the loans granted to the SPV formed on PPP basis are secured against the infrastructure asset of the SPV itself. Now, in the unfortunate event that the SPV is unable to pay back the loans due to, let's say, an inaccurate assessment of the environmental, demand or political risks – one might argue that the banks have granted secured loans, so the risk is fully minimized. However, it is pertinent to note that the coastal road is essentially a government-owned asset being built and to be operated and maintained by a partner like L&T. To attach the coastal road and auction it away would imply several obvious hurdles, starting with issues like whether the coastal road can even be sold, considering the ownership vests in the government? Similarly, auctioning few other public infrastructures built under concession agreements like metro and rail corridors, energy supply projects, etc. raises doubts on whether ownership of such public assets of the SPV can be transferred when auctioned, and if yes, would potential buyers be willing to invest in such large-scale distressed assets?

Further, it may also be pertinent to look back to a landmark project in the 1990s where the parties used court intervention to slow down the arbitration process affecting recovery claims. The 'Enron-Dabhol Power Project' was one of India's biggest foreign investments in the infrastructure sector in the 90s. However, when a dispute arose because the authorities halted the project and the foreign investor had already invested millions, both the central and the Maharashtra government rather fancied to avoid a settlement of the dispute by international arbitration, which was duly agreed to in the relevant agreements. At that time, India had even ratified the New York Convention and passed the 1996 Arbitration Act. Yet, this was apparently done by the governments to slow down the arbitration proceedings through court intervention. After a long

litigation battle of about 25 years, the Supreme Court eventually decided to close the petition.[21]

Conclusion

Whether it is private investments or PPPs, the principle of project maximization holds utmost relevance for investors, sponsors and lenders in the infrastructure sector. However, disputes due to cost escalations and delays are not an uncommon menace for investors and lenders alike. Thus, a resilient dispute resolution system for lenders like banks and financial institutions to recover their dues in a timely fashion is key to uphold and improve 'Ease of Doing Business' in India. With cumbersome and lengthy litigation before domestic tribunals without virtually any party autonomy, the pros of arbitration clearly outweigh those of DRTs and civil courts. Judicial intervention, delay and procedural rigidity of DRTs and civil courts have contracted its scope as the most effective mechanism in PPP disputes.[22]

The author concludes by reiterating that the Supreme Court's observations in *Vidya Drolia* with respect to restricting the arbitrability of debt recovery disputes to DRTs are unfounded and tenuous. For the already aforementioned reasons, DRTs are already burdened with tens of thousands of pending cases and the system is choking with bottlenecks. In light of this and all arguments presented in this article, it is contended that the Hon'ble Court could have gone with the alternative view of permitting debt recovery claims to be arbitrated upon, as they conform to the four-fold test laid down in this very judgement. India can take a step forward from "*being a jurisdiction where the term 'dispute' meant complex litigation procedures, confusion, and ambiguity surrounding the jurisdictional issues, a huge backlog of cases, etc., to an investment destination which has undertaken important steps towards improving quality of the judicial process and vows to effectively reduce time and cost of enforcing a contract.*"[23]

More importantly, it has been observed by this very Court that there lies a presumption in favour of the dispute's arbitrability.[24] All disputes are arbitrable until it is proven that the legislative intent is to oust the contractual freedom of parties to settle their disputes through arbitration or that there exists such fundamental conflict between the subject matter of dispute and the current understanding of public policy.[25]

It is finally and zealously argued that courts must uphold the principle of party autonomy and allow the parties to derive the advantages of such an alternate mechanism rather than precipitously snubbing it so as to conserve the jurisdiction of public fora. *The Courts mustn't take one step forward to go two steps back.*

[21] Centre of Indian Trade Unions v. State of Maharashtra, (2020) 13 SCC 741.
[22] K. Harisankar and G. Sreeparvathy, *Rethinking Dispute Resolution in Public–Private Partnerships for Infrastructure Development in India*, 5(1) Journal of Infrastructure Development 30 (2013).
[23] Amitabh Kant, *Effective Arbitration Process Can Make India A Sought After Business Destination*, The Economic Times (July 24, 2019), https://economictimes.indiatimes.com/news/economy/policy/view-how-properarbitration-mechanismcan-make-india-a-sought-after-businessdestination/articleshow/70368747.cms?from=mdr (last visited on May 8, 2021 at 6:22AM)
[24] Magma Leasing & Finance Ltd. v. Potluri Madhavilata, (2009) 10 SCC 103.
[25] Anand Kumar Singh, *Arbitrability of Disputes in India: The Changing Landscape of 'Exclusive Jurisdiction' Discourse*, 7(1) NLUJ Law Review 101 (2020).


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Future of Green Financing: Challenges and Opportunities

Mr. Shivendra Nath Mishra*

ABSTRACT

Green finance is characterized by the rational use of resources, a low carbon emission rate and social inclusion. The development of green finance has been gradual. First of all, it is the investor's awareness of social issues which then gave rise to a more in-depth environmental integration and a conviction of the actors of the need to include sustainability in the market. This branch from the field of international finance is widely used these days, given its influence on the greening of projects for the benefit of populations in the four corners of the world. This article gives an overview of green bonds and sustainable finance and tries to analyze the challenges in implementing green finance all over the world briefly in the African continent and India. Also, it provides a few sustainable solutions to implement the green finance system in a better way.

Keywords: Green Finance, Green Bond, Sustainable Finance

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Introduction

Since the industrial revolution, economic activities have been based on the massive exploitation of natural resources. The question of the sustainability of these resources only recently arose with the scale of climate change. Calling for a paradigm shift, the concept of the green economy emerged. According to the United Nations, *"it is characterized by the rational use of resources, a low carbon emission rate and social inclusion."*

"*Sustainable finance is an opportunity to meet the immense ecological and economic challenges of our time and a way forward for future generations. This is a high-potential segment of the world of finance whose common thread is to decarbonise the economy by intelligently mobilizing funds for the preservation of the planet and the fight against climate change."*[1]

The development of green finance has been gradual. First of all, it is the investors' awareness of social issues which then gave rise to a more in-depth environmental integration and a conviction of the actors of the need to include sustainability in the market. This branch from the field of international finance is widely used these days, given its influence on the greening of projects for the benefit of populations in the four corners of the world.

Green Finance in India

The Environment ministry assesses that India will require USD 2.5 trillion to meet environmental change focuses, of which USD 280 billion is required in the following five years for green foundation alone. The size of speculations assessed isn't something India has at any point overseen previously, considering the nation's absolute interests in the foundation has been recently more than USD 1 trillion in the earlier decade and a half. Green finance—investments that have a positive impact on the environment or reduce the risk of climate change—is the need of the moment.

To place it in context, India needs about 3 times the all-out venture made in the infrastructure sector over the recent 10 years to handle environmental change during the current decade. Existing sources of capital will essentially not be sufficient. Incorporating the necessities of the climate into the financial backer dynamic will make capital bound to stream to resources that are viable with maintainability. Doing so will likewise assist monetary foundations with overseeing hazards, improving the strength of the monetary framework overall. As per Sandeep Bhattacharya of the Climate Bonds Initiative, "*The end objective would be that nearly all financial transactions are green and thus 'green' from green finance drops off."* Cost is a significant factor because conventional shrewdness recommends that green ventures come to the detriment of development, and thus, creating economies centre around diminishing the expense of speculations to spur development.

[1]*Overview of Sustainable finance*, European Commission, https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/overview-sustainable-finance_en (last visited 11 June,2021).

Needs And Challenges in Implementing Green Finance

Green finance enjoys an economic power that is supposed to generate positive externalities by encouraging promising projects that protect the environment and avoiding projects that destroy natural resources. This involves mobilizing financial resources and reorienting public policies by supporting the private sector in its necessary multifactorial change. Good climate policies are inherent in the success of green finance. Concerning the multidimensional aspect of green finance, the synergy between the economic powers as a whole and the institutional actors is a fundamental building block for the success of this new form of responsible financing.

Indeed, more than ever, the role of the strategic State remains central, particularly in terms of regulation and legislation, setting an example and providing impetus to help the ecosystem act effectively and promote the birth of generating green financial centres (i.e., new business and new perspectives). Carbon pricing can be an opportunity for the state and companies to influence the sector as a whole. The harmonious collaboration of public authorities and operators, whatever their role or their power, is essential to raise the development of green finance to the highest level, structurally based on socially responsible, ecologically efficient and economically competitive projects.

This pioneering innovation is capable of disrupting the financial markets by stimulating new niches able to attract investors concerned with profitability, competitiveness but also sustainability by strengthening investments with a low carbon footprint and strengthening the implementation of new green technologies.

This funding aims to promote initiatives to accelerate projects of general interest which are distinguished by significant ecological anchoring. It is through economic intelligence that new activities emerge with an emphasis on innovative financial tools and incentives. It is these strategic techniques that boost projects focused on protecting our environment, by increasing investments in renewable energies and energy efficiency. For example, this new lever for socio-economic development is reflected in the implementation of services and products integrating ecological criteria and aspects related to the financial risks potentially generated by operations throughout their life cycle. The scope of green finance also covers the restructuring of the economic model to make it more sustainable and through the diversification of financial instruments correlated with major social issues.

Overview of Green Bonds

Green bonds make it possible to redirect investments towards eco-responsible projects. The greens bond market is booming but insufficiently influential. This segment is in the minority compared to all outstanding's worldwide. It is essential to support this evolving "green bond" market by injecting more flexible assets and contributing to the definition of bond standards, particularly in terms of reporting.

In this regard, the contribution of blockchain technology in the field of green finance in the form of cryptographic transactions offers more security, transparency and performance in transactions as well as many opportunities facilitates the labelling and standardization of greens bond for optimization of the financial circuit and better visibility concerning investors and issuers. It would be relevant to go beyond the

experimentation phase of these breakthrough technologies by accelerating the diversity of applications, by massifying their uses through pilot projects and by powerfully exploring the potential they offer. Also, these innovations are embodied mainly by fintech, which are young companies geared towards the democratization and digitization of financial services and products, occupy a structuring place in the climate finance ecosystem has given their anticipatory strategy and their futuristic vision. The transition to a sustainable economy is imperative for progress and economic development. The complementarity between FinTech and green finance makes it possible to deploy structured financial technologies to build a viable mechanism. Online banking and insurance solutions, cryptocurrency, sites dedicated to online money pools and crowdfunding platforms are concrete realities of these financial technologies at the service of everyday life. For example, the extremely successful Microworld platform is used to grant microloans to entrepreneurs wishing to develop the economy locally.

Importance of Green Bonds in the Indian Economy

Green Bonds are designed to address the problem of finance in the rapidly developing renewable energy industry. India has set a lofty goal of producing 175 GW of renewable energy by 2022 to lessen its carbon impact. To attain such capacity, an estimated investment of USD 200 billion is necessary. The absence of capital backing has caused a significant delay in many "green'' initiatives. Green Bonds are a new kind of sustainable energy investment that is quickly gaining popularity. The following are some of the major advantages of issuing green bonds:

Investor diversification: These bonds allow issuers to diversify their financing sources and reduce their reliance on certain markets. Green bonds have been particularly popular among investors who are interested in sustainable and responsible investment (SRI), as well as those that meet the ESG (Environmental, Social, and Governance) requirements. Pricing Advantage Possibility: These bonds have a price advantage because of their green feature. Green bonds offer a good chance of attracting local and international funding for renewable energy on better conditions, such as lower interest rates and longer payback periods.

Process of Issuing Green Bonds in India

To issue a green bond, you must follow the guidelines outlined in the Securities and Exchange Board of India (Issue and Listing of Debt Securities) Regulations, 2008 ("ILDS Regulations") and the Green Bond Guidelines ("Circular") released by SEBI ("Board") on May 30, 2017:

- For securities to be listed, the issuer must apply for a recognised stock exchange. The issuer must designate merchant bankers who are registered with the Board, with one serving as a head merchant banker. It must also receive in-principal clearance for the stock market listing of green bonds, as well as a credit rating from a credit rating agency. The issuer must also engage in a depository agreement for the dematerialization of the green bonds.
- It shall also designate one or more debenture trustees in line with the Companies Act, 1956 ("Act") and the SEBI (Debenture Trustees) Regulations, 1993, which govern the appointment and responsibilities of debenture trustees. Green bonds

cannot be issued for loans or the purchase of shares of anybody who is a member of the same group or is under the same arrangement.

- The offer document must provide all the important information that subscribers need to make an educated selection. The issuer and the lead merchant must ensure that the offer document contains - which discuss things that must be mentioned in the prospectus and reports that must be provided. And disclosures such as the past three years' annual report, the issuer's commitment, and so on. The purpose of the green bond, a summary of how the issuer evaluated the projects' eligibility and the mechanism for deploying the proceeds of the offering. Details about the projects that will be financed using green bonds, as well as the appointment of a third-party reviewer to confirm things like project assessment, selection criteria, and project categories that are eligible for green bond financing. The draft and final offer documents must be posted on stock market websites. Advertising for public concerns would include advertising in national papers; there should be no misleading content included; it should be accurate, fair, and clear; and it should only discuss the pertinent themes. Green bonds shall not be mentioned in any other product or marketing published by the issuer during the subscription period.
- The issuer wishing to issue green bonds online via the approved stock exchange's website must meet any additional conditions imposed by the Board. The issuer and the lead merchant banker will work together to decide the price or the price will be decided via the book-building process. The issuer may set the minimum subscription it wants to raise via the green bond offering and disclose it in the offer document.
- In three months after the issue closes, the issuer will execute a trust deed in favour of the debenture trustee. The trust must include provisions such as those set out in Section 117A of the Act and Schedule IV of the SEBI (Debenture Trustees) Regulations, 1993. A corporation shall establish a debenture redemption reserve for the redemption of green bonds in line with the Act and any circulars issued by the federal government. The trust shall not include any provisions that restrict the issuer's responsibilities and liabilities concerning the investor's rights and interests.
- In the case of secured green bonds, there should be a proposal to establish a charge or security that must be declared in the offer document and the issuer is required to make an assurance that the assets on which the charge is placed are free of any burden. The cash from the offering will be held in an escrow account until the offer document's paperwork for security, formation is completed.
- The issuer will maintain a decision-making procedure that establishes the projects'/assets' eligibility. Including, without exception, a declaration on the environmental goals of green bonds as well as a method for determining whether projects or assets are suitable for consideration. He will guarantee that the profits from the green bonds are used to support all projects and assets and that the goals are met. The offer materials clearly state how the profits will be used. The issuer or any agent of the issuer will disclose all facts in the offer document, disclosure document, and continuing disclosures if the issuer or any agent of

the issuer follows any internationally recognised standard for quantifying the environmental effect on the projector has a procedure for selecting projects or assets or using funds.

Global Perspective

At the European level, the European Commission has set up a committee of experts to look into the question of the specification of eligible projects and the marking of investments. The European Union has launched a sustainable finance action plan and plans to build a climate bank to harmonize initiatives on a continental scale and participate in the robustness of projects. Despite the economic turmoil due to Brexit, Great Britain, which launched the "Green finance Initiative" With the support of the British Treasury, has a head start in this market[2]. Indeed, it oversees the European ranking in terms of issuance of operations in the field of green finance thanks to an anticipation of the transformations at work and a unifying financial sector. In France, a few banking institutions and large multinational groups, with the support of the government, are pursuing an aggressive policy in terms of green bond issues. France's worldwide stock in this area is estimated at 20%[3]. This market volume is changing significantly. Also, the financial centres of Frankfurt and Zurich are very involved in this international movement. Other European countries stand out, such as Sweden, the Netherlands and Luxembourg, where the majority of European green bonds are listed.

The United States, most often playing the leadership role, is ranked behind the Chinese superpower, which has established itself as the leading issuer of green bonds by undoubtedly holding the most important market with nearly 40% of bonds. It is the financial centres of Shanghai and Hong Kong that are pulling up this vital sector for the country. The creation of a complete range of green products and the expansion of FinTechs are strengths of the Chinese experience. The example of the Lufax platform[4] specializing in loans between individuals illustrates this dynamic supported by large groups and banks.

Special Challenges Faced by Africa

The African continent has joined many initiatives to shake up financial institutions and push them towards more collective responsibility. In this sense, the financial centre newly initiated by the economic capital of Morocco, Casablanca Finance City is positioning itself as the future African hub for green finance by signing cooperation agreements with several rapidly growing global financial centres. This positioning puts the focus on the financing of infrastructure, the sustainable agriculture sector and clean energies. Some countries in Africa are tackling the issue of green finance like South Africa, Nigeria and Kenya. It is the gathering of the African continent around common objectives that will consolidate the orientations of this financial centre with global ambitions. For this purpose, the installation of an ecosystem made up of banks, insurance companies,

[2]*Globalizing Green Finance: The UK as an international hub*, GREEN FINANCE INITIATIVE, https://www.cbd.int/financial/gcf/uk-hubgreenfinance.pdf (Last visited 11 June,2021)

[3] Green finance, International Finance corporation, https://www.ifc.org/wps/wcm/connect/12ebe660-9cad-4946-825f66ce1e0ce147/IFC_Green+Finance++A+Bottomup+Approach+to+Track+Existing+Flows+2017.pdf?MOD=AJPERES&CVID=lKMn.-t (Last accessed on 10 May 2021)

[4] International Fintech, https://internationalfintech.com/Company/lufax/ (Last visited 11 June,2021)

entrepreneurs, civil society, NGOs, institutional investors, donors, corporate issuers and management companies, dedicated to climate finance in Africa, makes sense to the extent that it helps to find financing for the massive needs of the energy transition, thus promoting humanly significant projects and which economically essential for the development of Africa. The phenomenon of climate finance is profoundly global because financial flows have no real border. It is for this reason that all financial centres should favour more cooperation and partnerships.

In Africa, the green economy encompasses activities in various fields ranging from agro-food to energy, including waste management, water, health and tourism. To meet the threefold social, environmental and economic profitability objectives, green activities require large investments or generate significant production costs. For example, renewable energies require significant initial investments although their operating costs are low, unlike fossil fuels.

The difficulties raised by entrepreneurs in the green economy are very often linked to access to financing or high-interest rate practices due to investors' reluctance in the face of high risks. Public policies are still reluctant to create favourable frameworks likely to mitigate these risks. Indeed, not taking into account negative externalities, traditional activities benefit from a lower production cost and more significant income linked to public subsidies. These support policies distort prices to the detriment of products from the green economy.

Also, certain intermediate goods entering into the production of the green economy such as solar panels, wind turbines, and products from ecological agriculture for example are still subject to taxes, which tends to increase the price of products. of the green economy. Under these conditions, the profitability of investments in the green economy is lower, de facto limiting the financing opportunities for the actors of the sector. Financial efforts and a review of development models will make it possible to make the transition to a green economy that is resilient in the face of climate change. The financial and fiscal provisions which for the moment penalize the development of this economy can be transformed into factors favourable to the latter.

A Necessary and Timely Green Transition

African states have economies based primarily on natural resources. They can derive more value from it by promoting activities that enhance and perpetuate this capital. Green activities create new markets and allow job creation. The transition to a green economy could only improve economic growth more than simply maintaining the status quo or hampering public policies. The financing needs of this transition are certainly important but according to the United Nations Environment Program, on a global scale, invest 2% of world GDP by 2050[5] in target sectors such as agriculture and energy would accelerate economic growth. This is how African leaders have linked the financing of the fight against climate change to that of the green transition**.**

As part of the fight against climate change, several economic instruments have emerged, in particular the clean development mechanism and the carbon market resulting from the

[5]*Towards a Green Economy,* UNEP, https://sustainabledevelopment.un.org/content/documents/126GER_synthesis_en.pdf (Last visited 11 June,2021).

Kyoto protocol. Public financial institutions, sovereign wealth funds and development banks have also started to direct part of their investments in the green economy favouring its development although it is still modest. However, African states have failed to capture the majority of these investments. For now, they are developing different strategies to increase their support for the green economy. These appear in particular in the nationally determined contributions (INDCs), subject to the Paris Climate Agreement. They have committed to quantified carbon emission reduction targets. The achievement of these objectives reflecting a low-carbon economy remains largely conditioned by external financial contributions.

Improve Financing Mechanisms and Rethink Investments

Public funding plays an essential role in triggering the transformation of the traditional economy and meeting these expectations. At the global level, much remains to be done to make climate and environmental funds effective and improve their access to African states. They are still insufficient to initiate a true green transition, but they could be strengthened by resorting to additional sources of predictable funding such as taxes on transport and financial transactions in developed countries.

At the local level, the States which choose the concrete political options for a green transition will be the first to be resilient in the face of climate change. This is to limit spending and investment in areas that deplete natural resources while increasing them in green activities, training and capacity building. Many African states, for example, have a strong potential for sustainable tourism, organic farming and renewable energies. Act on the regulatory framework and not subject these activities to rigid tax regimes thanks to tax exemptions, tax credits, the establishment of well-oriented subsidy systems or national funds fueled by activities with strong negative externalities would be encouraging measures to promote a still fragile green economy.

"*The green finance market is around USD 200 billion annually. This is meagre compared to all the financial flows recorded at the global level. Today, it is clear that sustainable finance only weighs 1% of the global bond market, estimated at USD 80 trillion.*"[6] It is therefore up to the players to go a step further by accelerating the energy transition and transforming a niche market into a massive market.

The players are more and more aware of this funding model. In reality, climate finance presents a long-term economic issue because it is not only an environmental issue but also survival and financial sustainability. Natural disasters caused in part by climate change could have a strong impact on assets managed by financial institutions. Therefore, climate risk is considered a financial risk.

The most widely used financial instruments in green finance are debt and equity. The diversification of sustainable financial products represents a major challenge because it brings stability. New investment services and the reallocation of capital should be considered. Reducing prudential obligations and solvency criteria for green investors is an avenue to be seriously explored by stakeholders. Also, creating constructive bridges between issuers and investors based on converging interests is an effective approach. To

[6]*The Growing Opportunities for Green Finance*, BBC FUTURE, http://www.bbc.com/storyworks/future/bridge-to-a-better-tomorrow/the-growing-appetite-for-green-finance (Last visited 11 June, 2021).

supervise this development, the establishment of an evaluation and action monitoring body seems judicious to modify a system in gestation.

Building the 21st-century financial centre calls for unlocking a completely sclerotic world of finance, rethinking software, overhauling capitalism and humanizing finance by stopping its excesses through regulation and permanent adjustment of the legal and technical framework. These principles are intended to meet the demands of the people in terms of protecting their living environment and improving climatic conditions. The financial centres of the future will be engaged, digitized and collaborative, thus responding to changes in lifestyles and economic models.

Changing uses, changing lifestyles and awareness of environmental risks are opening up new horizons in areas with high added value such as smart cities. On the other hand, these rapidly developing cities around the world require a fortiori the mobilization of financial intelligence focused primarily on sustainable and inclusive finance.

Indeed, local authorities often face shortages of revenue and budgetary restrictions which prevent them from carrying out sustainable local public policies that meet the aspirations of citizens. It is to compensate for these budgetary limits that climate finance can provide funding for projects oriented towards ecology and cutting-edge technology to help territories with a very strong environmental ambition to set up a global climate-energy plan.

Smart Cities offer endless opportunities to the financial market, which is nevertheless still shy and sometimes unable to support players from start to finish. It is up to the cities to adopt an attitude of openness towards lending organizations and to strengthen cooperation with the financial and technological ecosystem to identify priority and eligible projects.

The nature of Smart Cities oriented projects that can be supported by green finance is extremely rich. It can take the form of technological development allowing the improvement of air quality, the supervision of water systems to guarantee irreproachable sanitary quality, solar and connected lighting projects, the implementation of transport systems. Collective and low-emission, organic farming, circular economy, social and solidarity economy, green infrastructure, development of municipal libraries, nature in the city, technologies related to urban logistics, silver economy, security and resilience of urban systems.

Conclusion- The Path Ahead

Climate financing is very global since no actual boundary exists for financial movements. Cooperation and partnerships between financial centres is an important argument for why all financial centres should choose to form partnerships. Making the shift to a more sustainable economy is achievable with the use of financial resources and a study of development patterns. The fiscal and financial measures that in the short term limit the economy's growth may be replaced by favourable circumstances that promote the growth of the economy.

Green finance creates an effervescence that can breathe fresh air into the entire ecosystem and promote virtuous investments having a positive impact on humans and the

planet. Succeeding in the challenge of responsible finance requires the commitment and determination of all direct and indirect players.

Beyond the effects of green-washing, banks supported by other players specializing in the field will be winners in the future thanks to better coordination and stronger investment in this source of environmental and social innovation, which also participates in creating positive value, capturing risks and consolidating issues related to compliance with the law, ethics and professional conduct. A change of gear is essential to deal with the multiple factors linked to this new situation and to provide 360-degree support to project leaders.


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