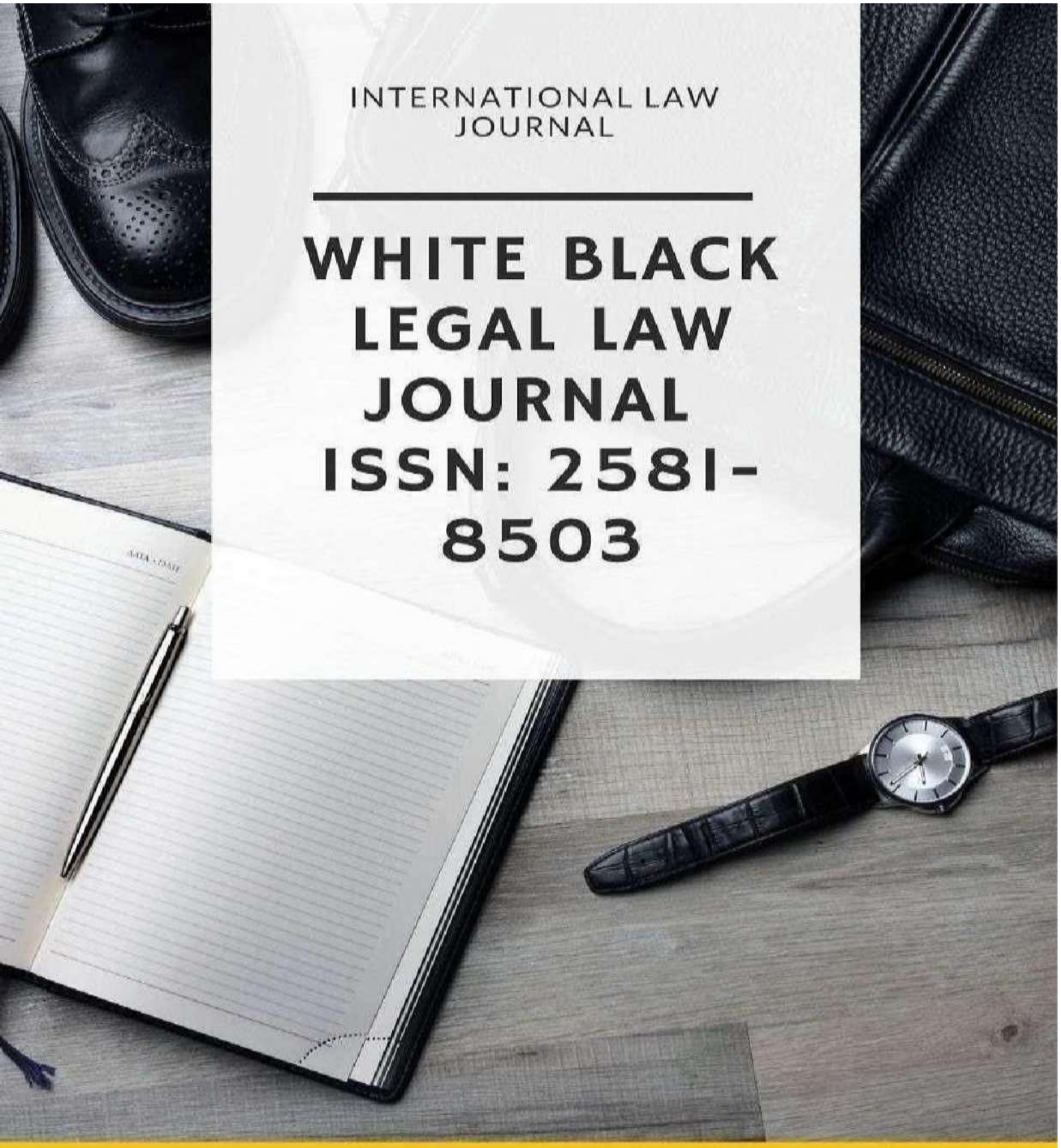

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LIABILITY FOR DEFECTS IN INFRASTRUCTURE: APPLYING "FITNESS-FOR-PURPOSE" OBLIGATIONS POST-COMPLETION

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Introduction

Infrastructure development is the key driving factor behind India's economic growth and social progress. Between 2019 and 2023, the infrastructure sector has seen significant investment (over $1.4 trillion), both public and private, in recent years. [1]Along with this growth comes the equally important challenge of ensuring the quality and longevity of the built infrastructure assets. Complex questions arise about who will be responsible for such problems: the contractor, designer, operator or public authority responsible for the affected infrastructure, which leads to substantial risks among property owners. But while the fitness-for-purpose obligations have gained salience as a key standard in assessing post-completion liability, their application in the Indian legal realm remains patchy and frequently contentious.

This article reviews the legal regime applicable to defects in infrastructure projects in India and discusses fitness-for-purpose obligations that persist past project completion. It analyses the theoretical basis for these obligations, their emergence in statutes and contracts, judicial interpretations, and practical challenges in enforcing them. Through an analysis of case law, statutory provisions, and industry practices, this article seeks to develop a holistic understanding of how fitness-for-purpose obligations function in India's infrastructure sector and how they can be leveraged to promote quality and accountability in a better way.

Conceptual Framework of Fitness-for-Purpose Obligations

Fitness-for-purpose originates from contract law and consumer protection principles. A fitness-for-purpose obligation requires a product or structure delivered to satisfy the end use rather than a defined technical specification. [2]This distinguishes it from the duty of "reasonable skill and care", which imposes the obligation to comply with professional standards and specifications but does not warrant the fitness of the final product for its purpose.

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[1] NITI Aayog, *National Infrastructure Pipeline: Report of the Task Force* (2019).
[2] Avtar Singh, *Law of Contract and Specific Relief* 829 (12th ed. 2020).

Fitness-for-purpose obligations in an infrastructure context embody a higher standard of accountability. A road that satisfies all technical specifications but fails when subjected to normal traffic loads would satisfy a reasonable skill and care standard but fail a fitness-for-purpose test. This differentiation is essential because infrastructure projects are judged by their effectiveness over technical compliance.

At common law, obligations of fitness-for-purpose are implicitly found in the Indian Contract Act, 1872 (hereinafter referred to as the "Act") under sections 65 and 73, dealing with consequences for breach and measure of damages, respectively.[3] Section 65 allows for restitution where the agreement is found to be void or a contract is rendered void, which can be interpreted to include failure of infrastructure to serve its purpose. Notably, section 73 provides that parties are entitled to recover loss caused by a breach of contract that arises in the normal course of events, which could include failure to deliver correctly functioning infrastructure.

Judicial decisions further develop those general contractual principles. *In M.P. Housing Board v. Progressive Writers and Publishers*,[4] the apex court held that where a party undertakes to do work and furnish material to a party, an implied warranty exists that the materials will reasonably fit the required purpose. This also extends to infrastructure projects, allowing a judicial basis for fitness-for-purpose obligations in construction contracts.

Statutory Framework Governing Infrastructure Defects in India

India has no specific legislation to govern liability for infrastructure defects. Instead, it is a patchwork of statutes, regulations, and codes that create a framework of standards and mechanisms for liability.

For any acts performed, including construction or maintenance services, the Consumer Protection Act 2019, applicable from October 2023, is a landmark step that widened the definition of "services" to include infrastructure development and maintenance.[5] The deficient services under this Act can result in claims to consumer forums and serve as an additional route

[3] The Indian Contract Act, 1872, No. 9, Acts of Parliament, 1872 (India).
[4] M.P. Housing Board v. Progressive Writers and Publishers, 2009 (5) SCC 678 (India).
[5] The Consumer Protection Act, 2019, No. 35, Acts of Parliament, 2019 (India).

to address infrastructure defects. However, its reach is still constrained by jurisdictions and standing requirements.

There are also sector-specific laws that add further layers of regulation. For example, the National Highways Authority of India Act, 1988, empowers the NHAI to take measures for the quality and maintenance of national highways.[6] Likewise, the Airports Authority of India Act, 1994 provides provisions to ensure the quality and safety of airport infrastructure.[7] Such statutes frequently empower regulatory bodies to develop technical standards and oversight mechanisms.

Another key element in the regulatory framework is the Indian Building Code and several Bureau of Indian Standards (BIS) specifications.[8] These codes set minimum technical standards for infrastructure projects. Compliance with standards does not alone mean fitness for purpose; failure to comply can be evidence of unfitness.

It should be noted that public procurement laws and regulations also govern the liability frameworks. The Manual for Procurement of Works, 2019, and General Financial Rules, 2017, prescribe guidelines on quality assurance and defect liability periods for infrastructure projects undertaken by the government.[9] Many of these administrative instruments contain clauses that are fitness-for-purpose in nature, mandating that contractors make works fit for their imputed purpose.

Despite this multi-layered framework, there are significant gaps in post-completion defects, particularly for projects that comply with technical specifications yet still are not effectively serving their purpose. Different sectors and jurisdictions have different approaches to liability determination and enforcement schemes because of the lack of a uniform approach.

Contractual Dimensions of Fitness-for-Purpose Obligations

In practice, fitness-for-purpose obligations arise almost exclusively from a contractual arrangement, not legislation. Standard form contracts commonly used in the Indian

[6] The National Highways Authority of India Act, 1988, No. 68, Acts of Parliament, 1988 (India).
[7] The Airports Authority of India Act, 1994, No. 55, Acts of Parliament, 1994 (India).
[8] Bureau of Indian Standards, *National Building Code of India* (2016).
[9] Ministry of Finance, *Manual for Procurement of Works* (2019).

infrastructure sector, including FIDIC (Fédération Internationale des Ingénieurs-Conseils), generally include express fitness-for-purpose clauses.[10] For example, FIDIC Yellow Book Clause 4.1- Contractor's General Obligations states: "The Contractor shall design, execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed, the Works shall be fit for the purposes for which they are intended as defined in the Contract."

Also, the EPC contracts used by the NHAI usually have the provisions that the contractor must make the highway fit for purpose and consider the final road ready for its intended use.[11] These contracts also typically provide for defect liability periods, during which contractors continue to be liable for remedied defects that arise.

Another contractual vehicle for establishing fitness-for-purpose obligations is the public-private partnership (PPP) agreement. In concession agreements for essential infrastructure projects, however — including but not limited to airports, seaports, and railways — the concessionaire is typically tasked with maintaining infrastructure fitness-for-purpose for a long-term (possibly multi-decadal) duration of the concession period.[12]

However, several factors often undermine the practical enforceability of these contractual Clauses. To start with, fitness-for-purpose obligations are very much industry- and contract-specific. Other contracts contain strong, broad clauses; others use vague language that leaves room for ambiguity. Second, contracts typically do not explicitly set out the purpose for which the infrastructure is built, which makes it challenging to identify whether a fitness-for-purpose obligation has been breached. Third, liability limitations clauses often limit your remedies for fitness-for-purpose failures, notably after the defect liability period (if one is in the contract) ends.

In particular, subcontracting is common in infrastructure projects, reinforcing the lack of transparency in the contractual environment. Although the primary contractor may have contractual fitness-for-purpose obligations to the employer, this is not always effectively

[10] International Federation of Consulting Engineers (FIDIC), *Conditions of Contract for Plant and Design-Build* (2nd ed. 2017).
[11] National Highways Authority of India, *Model Engineering, Procurement and Construction Agreement* (2020).
[12] Planning Commission, Government of India, *Model Concession Agreement for PPP Projects* (2014).

passed down to subcontractors, leading to potential liability gaps.[13] One particularly acute example of this "liability mismatch" problem arises in design-build projects, where the general contractor will often accept fitness-for-purpose liability but will only retain design consultants who agree to exercise reasonable skill and care.

Judicial Approaches to Post-Completion Liability

However, Indian courts have struggled to apply fitness-for-purpose obligations to infrastructure disputes, producing a body of jurisprudence that, while failing to achieve uniformity, nonetheless offers valuable lessons on issues of post-completion liability.

In *Mcdermott International Inc. v. Burn Standard Co. Ltd.*,[14] The court held that in turnkey contracts where "the contractor takes on responsibility for the design and the construction", there is an implied warranty that the finished facility will be suitable for its intended purpose. In other words, the nature of a turnkey contract creates this obligation, regardless of whether it is expressly provided for the contract language.

The Supreme Court in *Nabha Power Limited v. Punjab State Power Corporation Limited*,[15] Intervened in a contract to construct a power plant to address the issue of fitness-for-purpose. The Court took a purposive interpretation of the scope of the agreement, observing that it was not the technical specifications alone that mattered but whether the plant could perform its intended purpose of reliable power generation. This case demonstrates that the court may sometimes look to impotent performance as a much more meaningful standard of measure than compliance with specs, which is part of the specifications but in a context determined at least in part by performance.

In *Simplex Infrastructure Ltd. v. Union of India*,[16] The Delhi High Court also held that obligations of fitness-for-purpose may extend beyond the defect liability period set out in the contract where latent defects arise, which result in the infrastructure being unfit for its intended purpose. The ruling broadened the temporal horizon for post-completion liability.

[13] Neeraj Tiwari, "Subcontractor Liability in Infrastructure Projects: Legal Challenges and Practical Solutions," 56 Journal of the Indian Law Institute 204, 207-10 (2014).
[14] Mcdermott International Inc. v. Burn Standard Co. Ltd., (2006) 11 SCC 181 (India).
[15] Nabha Power Limited v. Punjab State Power Corporation Limited, (2018) 11 SCC 508 (India).
[16] Simplex Infrastructure Ltd. v. Union of India, 2019 (2) SCC 455 (India).

Although these cases reflect a judicial willingness to see and enforce fitness-for-purpose obligations, the approach remains inconsistent. Indeed, some courts have adopted a more cautious approach, restricting liability to what was clearly articulated in the contract. For example, the Gujarat High Court in *Larsen & Toubro Limited v. State of Gujarat*[17] Declined to imply fitness-for-purpose obligations beyond those stated in the agreement, underscoring the principle of freedom of contract.

This divergence in judicial approaches is most apparent in treating the relationship between technical specifications and fitness-for-purpose obligations. Some decisions hold that adherence to specifications gives rise to an assumption of fitness, whilst others, including Lotus, maintain that fitness-for-purpose obligations are independent of specification compliance. Such disparity leaves a lot of ambiguity for stakeholders in infrastructure projects and infrastructure services.

In addition, procedural obstacles often affect judicial enforcement of fitness-for-purpose obligations. Infrastructure agreements can be complex, requiring lengthy technical evidence and expert testimony, sometimes resulting in drawn-out litigation. Moreover, the limitation period to bring a claim may be very significant, particularly for defects that become evident over several years.

International Perspectives and Comparative Analysis

The comparative study shows that fitness-for-purpose obligations are treated differently in infrastructure projects among different jurisdictions and that their legal recognition and enforcement mechanisms vary.

This broad category of cases was supplemented in the United Kingdom by the decisions in *MT Højgaard A/S v. E.ON Climate & Renewables UK Robin Rigg East Ltd*[18] Established a strong precedent for enforcing fitness-for-purpose obligations in infrastructure contracts. The UK Supreme Court ruled that when a contract imposes a compliance requirement with certain specifications and a self-imposed fitness-for-purpose requirement, the fitness-for-purpose provision applies when the infrastructure fails despite compliance with the specification. This method lays a lot of accountability at the contractors' feet for ensuring that the infrastructure

[17] Larsen & Toubro Limited v. State of Gujarat, C/SCA/12576/2015 (India)
[18] MT Højgaard A/S v. E.ON Climate & Renewables UK Robin Rigg East Ltd. [2017] UKSC 59 (UK).

they provide works.

Australia has recognised a doctrine of fitness and purpose in mining infrastructure contracts through cases like *Placer (Granny Smith) Pty Ltd v. Thiess Contractors Pty Ltd*,[19] In which the Western Australian Supreme Court enforced fitness-for-purpose obligations in a mining infrastructure contract. The Court noted that these obligations give rise to a result-based liability more than absenting from a certain degree of exercise of reasonable skill or standard of practice.

By contrast, the United States has been more hesitant to impose broad fitness-for-purpose obligations, especially concerning public infrastructure contracts. The American federal courts have a longstanding requirement for clear and unambiguous words that will create such liabilities: see the *Blake Construction Co. v. United States.*[20] Case. This more cautious line is a policy concern over placing so much risk on contractors.

Singapore occupies an interesting middle ground, with courts generally willing to enforce explicit fitness for a particular purpose's obligations whilst also being wary of being concerned about implying such commitments when there is a lack of contractual wording to support them. In *Ser Kim Koi v. GTMS Construction Pte Ltd*, [21]The Singapore Court of Appeal reaffirmed the significance of the drafting of the contract in establishing the scope and extent of fitness-for-purpose obligations.

These global practices provide significant insights into India's developing jurisprudence on infrastructure deficiencies. As the cases of the UK and Australia illustrate, effective enforcement of fitness-for-purpose obligations can improve the quality and durability of infrastructure. Yet the American approach underscores concern about risk allocation and the potential for imposing intolerable burdens on contractors.

Challenges in Enforcing Fitness-for-Purpose Obligations

Several practical challenges impede enforcing fitness-for-purpose obligations in the Indian infrastructure sector. First, definitional ambiguity often undermines these obligations.

[19] Placer (Granny Smith) Pty Ltd v. Thiess Contractors Pty Ltd. (2003) 196 ALR 257 (Australia).
[20] Blake Construction Co. v. United States, 597 F.2d 1357 (Ct. Cl. 1979) (US).
[21] Ser Kim Koi v. GTMS Construction Pte Ltd. [2016] SGCA 7 (Singapore).

Contracts frequently fail to precisely define what constitutes "fitness" for the infrastructure being built, creating uncertainty about when an obligation has been breached. This ambiguity is particularly problematic for complex infrastructure like smart cities or multi-modal transport systems, where the intended "purpose" may encompass multiple functions.

Second, information asymmetry between stakeholders complicates liability determination. Infrastructure projects involve numerous participants—contractors, subcontractors, designers, material suppliers, and public authorities—each possessing different information about project components. When defects emerge post-completion, this fragmented information landscape makes it challenging to identify the responsible party and establish causation.[22]

Third, the long lifecycles of infrastructure assets create temporal challenges for liability enforcement. Many defects emerge gradually over years or even decades, often well after standard defect liability periods expire. When these defects become apparent, responsible entities may have dissolved, restructured, or become insolvent, making liability enforcement practically impossible.

Fourth, contractual limitations frequently restrict the scope and duration of fitness-for-purpose obligations. Sophisticated contractors often negotiate liability caps, exclusions, and narrow defect liability periods that dilute these obligations. Public procurement agencies may lack the expertise or bargaining power to resist such limitations, particularly at the state and municipal levels.[23]

Fifth, enforcement mechanisms remain inadequate. While contracts typically provide for remedies like rectification, replacement, or compensation, practical challenges often arise in implementing these remedies. For instance, rectifying defects in operational infrastructure like highways or bridges may cause significant public inconvenience, creating pressure to accept suboptimal solutions.

Finally, regulatory fragmentation hampers coherent enforcement of fitness-for-purpose standards. Various regulatory bodies govern infrastructure sectors with varying approaches to

[22] Siddharth Mohapatra & Ravi Kiran Edara, "Dispute Resolution in Infrastructure Projects: The Indian Experience," 10 Asian Journal of Legal Studies 123, 130-32 (2022).
[23] Public Affairs Centre, *State of India's Public Procurement: Analysis of Tender Documents in Infrastructure Projects* 37-42 (2023).

quality standards and defect liability. This regulatory patchwork creates inconsistencies and potential gaps in enforcement.

Towards a More Effective Framework

Addressing the challenges in enforcing fitness-for-purpose obligations requires a multifaceted approach combining legal, contractual, and institutional reforms. First, legislative intervention could establish a more coherent statutory framework for infrastructure defect liability. Like Singapore's Building and Construction Authority Act, a comprehensive Infrastructure Quality Act could develop uniform standards and liability principles across sectors.[24]

Second, standardisation of contractual provisions could enhance clarity and consistency. Government agencies could develop model contracts with well-defined fitness-for-purpose clauses, precise allocation of risks, and appropriate liability periods based on infrastructure type and expected lifecycle. These standardised contracts could specify objective criteria for determining fitness and establish graduated liability periods for different defects.

Third, institutional mechanisms for dispute resolution could be strengthened. Specialised infrastructure tribunals with technical expertise could provide more efficient and consistent adjudication of fitness-for-purpose disputes. Alternative dispute resolution methods like dispute review boards, which operate throughout the project lifecycle, could address defects proactively before they escalate into significant failures.

Fourth, insurance mechanisms could be expanded to cover fitness-for-purpose risks better. Latent defects insurance covers defects that emerge after completion and remain underdeveloped in India. Policy interventions to stimulate this insurance market could create a financial safety net for addressing post-completion defects.

Fifth, technological solutions offer promising avenues for enhancing enforcement. Building Information Modeling (BIM) and digital twins can create comprehensive digital records of infrastructure assets, facilitating defect identification and liability determination. Similarly, Internet of Things (IoT) sensors embedded in infrastructure can enable real-time performance monitoring against fitness-for-purpose criteria.

[24] Building and Construction Authority Act, 1999 (Singapore).

Finally, capacity building among public procurement agencies is essential. These agencies need enhanced technical and legal expertise to negotiate, monitor, and enforce fitness-for-purpose obligations effectively. International cooperation and knowledge sharing with jurisdictions that have developed robust infrastructure quality systems could accelerate this capacity development.

Conclusion

As India continues its ambitious infrastructure development agenda, ensuring the quality and durability of these assets becomes increasingly critical. Fitness-for-purpose obligations represent a valuable legal mechanism for enhancing accountability and driving quality improvement in the infrastructure sector. However, their practical application requires addressing significant conceptual, contractual, and practical challenges.

The current legal framework in India provides a foundation for fitness-for-purpose obligations but suffers from fragmentation, inconsistency, and enforcement gaps. While generally supportive of these obligations, judicial approaches have not yet coalesced into a coherent and predictable jurisprudence. International experience offers valuable insights but must be adapted to India's unique legal and institutional context.

A balanced approach is needed to ensure infrastructure quality without imposing unreasonable risks on contractors and developers. This balance can be achieved through more explicit statutory frameworks, standardised contractual provisions, specialised dispute resolution mechanisms, innovative insurance products, and technological solutions for monitoring and enforcement.

By strengthening the application of fitness-for-purpose obligations in the post-completion phase, India can enhance the quality and sustainability of its infrastructure assets, ensuring they truly serve their intended purposes throughout their designed lifecycles. This protects public investment and contributes to broader economic development and social welfare objectives that infrastructure is ultimately meant to serve.