COMPULSORY LICENSING AND FOREIGN TECHNOLOGY TRANSFER IN INDIA: BALANCING PUBLIC INTEREST AND PATENT HOLDER RIGHTS

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ABSTRACT

Compulsory licensing occupies a distinctive position in patent law because it qualifies the exclusivity conferred upon a patent holder to address defined public needs. In India, the mechanism seeks to ensure that patents contribute to technological development, domestic capability and public welfare rather than operate solely as instruments of exclusion. Its relationship with foreign technology transfer is complex. Foreign patent owners may contribute capital, know-how, research networks and advanced production techniques, while restrictive licensing, high prices, limited local manufacture and control over improvements may constrain diffusion. This paper examines the Indian framework under the Patents Act, 1970, the TRIPS Agreement and relevant investment principles. It analyses Natco Pharma Ltd. v. Bayer Corporation, and the significance of Sections 84, 92 and 92A. It argues that compulsory licensing should remain a calibrated, evidence-based safeguard rather than a routine instrument of industrial policy. Predictable procedures, adequate remuneration, transparent public-interest findings and complementary technology-transfer measures can preserve legitimate patent incentives while enabling access, local learning and resilient productive capacity.

Keywords: Compulsory licensing; foreign technology transfer; patents; public interest; TRIPS; India; innovation; patent holder rights

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INTRODUCTION

Patents encourage invention by granting time-limited exclusive rights in return for disclosure. The bargain is not an unconditional entitlement to exclude irrespective of social consequences. Patent systems operate within a wider constitutional, economic and developmental setting in which access to technology, competition, public health, industrial capability and consumer welfare also matter. Compulsory licensing is one mechanism through which the state may authorise a third party to use a patented invention without the patent holder's consent, subject to statutory conditions and remuneration. It is an exception to exclusivity, not an abolition of the patent right.[2]

The question becomes more complex when the patented technology is owned by a foreign enterprise or forms part of a cross-border collaboration. Foreign technology transfer may occur through licensing, joint ventures, technical services, research partnerships, foreign direct investment, equipment supply or acquisition of a local enterprise. Effective transfer may depend upon access to technical documentation, tacit know-how, trained personnel, maintenance support, source materials and permission to adapt or improve the invention. A patent licence alone does not necessarily deliver these elements. Equally, compulsory licensing of a patent does not automatically compel disclosure of confidential know-how that is not part of the patent specification.[3]

India must reconcile two objectives. It seeks to attract foreign investment and technology, protect legitimate patent-based returns and participate in global innovation networks. It must also ensure that patented inventions are available on reasonable terms, domestic productive capacity develops and public needs are not defeated by non-working, inadequate supply or unaffordable prices. The central issue is not whether public interest should defeat patent rights, or vice versa, but how the legal system can identify circumstances in which limited intervention is justified and design that intervention proportionately.[4]

This paper evaluates that balance through doctrinal analysis of Indian legislation, international obligations, judicial decisions and policy literature. It focuses on compulsory licensing as it

[2] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 7–8, 30–31.
[3] World Intellectual Property Organization. (2015). Successful technology licensing. WIPO.
[4] World Trade Organization. (2001). Declaration on the TRIPS Agreement and public health, WT/MIN(01)/DEC/2.

affects foreign-owned patents and the transfer or dissemination of patent-embedded technology. It does not assume that every foreign licence should result in local manufacture, nor that compulsory licensing is a general substitute for voluntary negotiation. It contends that the mechanism is most defensible when used as a carefully administered corrective to a demonstrable market or public-interest failure, accompanied by safeguards for the patent holder.[5]

CONCEPTUAL FOUNDATIONS: COMPULSORY LICENSING AND TECHNOLOGY TRANSFER

A compulsory licence is an authorisation granted by a competent public authority permitting a person other than the patentee to perform specified acts that would otherwise fall within the patent holder's exclusive rights. The authorisation is limited by purpose, scope, duration, territory and conditions. It ordinarily requires remuneration and may be subject to supply, quality, reporting and non-assignment obligations. It differs from voluntary licensing because consent is not the legal basis for use; it differs from revocation because the patent remains in force and the patentee retains rights against unauthorised users.[6]

Foreign technology transfer refers to the movement of technical knowledge, capabilities or protected technology from an entity or jurisdiction to another. It can be formal, through patent and know-how licences, technical assistance, turnkey projects and research agreements, or informal, through employee mobility, publications, supplier relationships and collaborative learning. Transfer is effective only when the recipient can absorb, use, maintain and, where legally permitted, adapt the technology. The transfer of a patent right, disclosure of an invention and transfer of operational know-how are related but legally distinct events.[7]

The distinction matters in compulsory licensing. A patent specification must disclose the invention sufficiently under patent law, but may not reveal every manufacturing parameter, quality-control practice, software component, source-code element, trade secret or tacit skill required for commercial production. A compulsory licence can remove the patent-law barrier to specified acts; it cannot automatically deliver confidential information held outside the patent disclosure. The licensee may still need to develop its own process, negotiate a separate

[5] Bently, L., Sherman, B., Gangjee, D., & Johnson, P. (2018). Intellectual property law (5th ed.). Oxford University Press.
[6] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 31.
[7] United Nations Conference on Trade and Development. (2001). Transfer of technology. United Nations.

know-how licence, hire trained personnel or obtain regulatory approvals. Legal permission should not be confused with technical capability.[8]

The economic justification for compulsory licensing is conditional. Exclusivity can support risky investment in research and development, facilitate disclosure and enable the patentee to recover sunk costs. Yet exclusion can also restrict supply, preserve high prices, prevent follow-on innovation or inhibit diffusion where the public has a compelling need. A sound regime distinguishes legitimate commercial returns from circumstances that frustrate statutory objectives. Its task is to correct a specified failure without destroying incentives on which future innovation depends.[9]

INDIAN STATUTORY FRAMEWORK

The Patents Act, 1970, as amended notably in 2005 to implement India's TRIPS obligations, provides the principal domestic framework. Section 48 confers exclusive rights on a patentee, including the right to prevent unauthorised making, using, offering for sale, selling or importing of a patented product, and corresponding rights in relation to a patented process. These rights are substantial, but operate alongside provisions concerning public interest, working of patents, compulsory licensing, revocation and government use.[10]

Section 83 sets out general principles applicable to the working of patented inventions. It recognises that patents are granted to encourage inventions and secure that they are worked in India on a commercial scale and to the fullest extent reasonably practicable, without undue delay. It states that patents are not granted merely to enable patentees to enjoy a monopoly for importation; protection and enforcement should contribute to technological innovation and transfer and dissemination of technology; and public health, nutrition and sectors vital to socio-economic and technological development must be protected. It also cautions against abuse of patent rights and practices that unreasonably restrain trade or adversely affect international transfer of technology.[11]

Section 84 is the ordinary route for an interested person to apply for a compulsory licence after

[8] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 29 and 39.
[9] Maskus, K. E. (2000). Intellectual property rights in the global economy. Institute for International Economics.
[10] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, §§ 48, 83–107, as amended by the Patents (Amendment) Act, 2005.
[11] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, § 83.

three years from the date of grant. The Controller may grant a licence if any one of three grounds is established: reasonable requirements of the public with respect to the patented invention have not been satisfied; the patented invention is not available to the public at a reasonably affordable price; or the patented invention is not worked in the territory of India. The grounds are alternative rather than cumulative, although evidence may overlap. The applicant must ordinarily first make efforts to obtain a voluntary licence on reasonable terms within the prescribed period, unless statutory exceptions apply.[12]

Section 84(7) identifies circumstances relevant to reasonable requirements, including prejudice to an existing trade or industry, inadequate supply, failure to meet demand on reasonable terms, refusal to license on reasonable terms where trade or industry is prejudiced, and conditions impeding working or establishment of activities in India. Section 89 explains the general purposes of compulsory licensing: inventions should be worked on a commercial scale in India without undue delay, and the interests of persons already working or developing the invention should not be unfairly prejudiced. Section 90 directs the Controller to settle terms securing reasonable royalty and adequate remuneration, reasonable public availability at reasonably affordable prices, and working to the fullest extent reasonably practicable by the licensee.[13]

Sections 92 and 92A address distinct situations. Under Section 92, the Central Government may notify a national emergency, extreme urgency or public non-commercial use where compulsory licensing is necessary. The provision includes public-health crises and permits an expedited procedure in specified circumstances. Section 92A enables compulsory licensing for manufacture and export of patented pharmaceutical products to a country with insufficient or no manufacturing capacity in the pharmaceutical sector, subject to statutory conditions. Section 100 separately empowers government use for government purposes, while Section 102 provides for acquisition of an invention or patent by the Central Government in the public interest. These provisions have different triggers and consequences.[14]

Section 146 requires patentees and licensees to furnish information regarding the extent to which the patented invention has been worked on a commercial scale in India. The related Form 27 framework has undergone changes, but the statutory concern with working remains

[12] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, § 84.
[13] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, §§ 84(7), 89–90.
[14] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, §§ 92, 92A, 100 and 102.

important. Section 83 is not, by itself, an independent compulsory-licensing ground; it guides interpretation and application of operative provisions. A decision-maker must connect evidence to Section 84 or another applicable route rather than treating a broad policy statement as sufficient authority to interfere with exclusivity.[15]

INTERNATIONAL FRAMEWORK: TRIPS, DOHA AND TECHNOLOGY DISSEMINATION

The TRIPS Agreement establishes minimum standards for intellectual property protection while recognising that intellectual property rules should contribute to technological innovation and transfer and dissemination of technology. Article 7 identifies these objectives and requires a balance of rights and obligations. Article 8 permits members, when formulating or amending laws and regulations, to adopt measures necessary to protect public health and nutrition and promote the public interest in sectors of vital importance, provided such measures are consistent with the Agreement. These provisions provide interpretive context; they do not remove the need to comply with specific compulsory-licensing conditions.[16]

Article 31 governs use of patented subject matter without authorisation of the right holder. It requires case-by-case consideration, limits scope and duration to the purpose for which use is authorised, and ordinarily requires prior efforts to obtain authorisation on reasonable commercial terms. The prior-negotiation requirement may be waived in a national emergency, other circumstances of extreme urgency, public non-commercial use, or anti-competitive practices, subject to the Agreement's conditions. Use must generally be non-exclusive and non-assignable, predominantly for supply of the domestic market, and subject to adequate remuneration having regard to the economic value of the authorisation. Decisions and remuneration are subject to review as provided by Article 31.[17]

The Doha Declaration on the TRIPS Agreement and Public Health, adopted in 2001, confirmed that TRIPS should be interpreted and implemented in a manner supportive of members' right to protect public health and promote access to medicines. It affirmed members' freedom to

[15] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, §§ 83 and 146; Government of India. (2003). The Patents Rules, 2003, as amended.
[16] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 7–8.
[17] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 31.

determine the grounds upon which compulsory licences are granted and what constitutes a national emergency or extreme urgency. It identified HIV/AIDS, tuberculosis, malaria and other epidemics as examples of public-health crises. It also recognised the difficulty faced by countries with insufficient or no pharmaceutical manufacturing capacity, a concern later addressed through the Paragraph 6 system and Article 31bis.[18]

Article 31bis, which entered into force in 2017, provides a mechanism for production and export of pharmaceutical products under compulsory licence to eligible importing members with insufficient or no manufacturing capacity. India's Section 92A is designed to operate in this context. The mechanism is specialised and subject to notification, quantity, destination, identification and anti-diversion requirements. It demonstrates that compulsory licensing can facilitate cross-border supply, but it is not a general export licence for all patented technologies.[19]

The international framework accommodates national policy space but disciplines its exercise. It does not prescribe that compulsory licensing must be granted whenever a government invokes public interest. Nor does it prohibit intervention merely because the patent holder is foreign. National treatment and most-favoured-nation obligations under TRIPS remain relevant, and measures must be administered without arbitrary discrimination. The sustainable position is to apply neutral statutory criteria to domestic and foreign patentees alike, provide procedural fairness and calculate remuneration in a reasoned manner.[20]

FOREIGN TECHNOLOGY TRANSFER: OPPORTUNITIES AND STRUCTURAL BARRIERS

Foreign technology can accelerate industrial development by providing access to advanced products, processes, research expertise, production methods and global distribution networks. In pharmaceuticals, medical devices, clean energy, semiconductors, agricultural technology and digital infrastructure, domestic firms may lack resources or time to independently develop complex technologies. Licensing and foreign collaboration can bridge this gap, create skilled employment, improve product quality and connect domestic suppliers to international value

[18] World Trade Organization. (2001). Declaration on the TRIPS Agreement and public health, WT/MIN(01)/DEC/2.
[19] World Trade Organization. (2005). Amendment of the TRIPS Agreement, WT/L/641.
[20] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 3, 4 and 31.

chains. Patent protection can encourage foreign firms to share technology because the legal framework offers predictability against unauthorised appropriation.[21]

Transfer may be limited by restrictive contractual terms, high royalty demands, narrow territorial rights, prohibitions on sublicensing, grant-back clauses, restrictions on research or adaptation, and dependence on imported components or technical services. A recipient may obtain permission to sell a product without receiving know-how necessary to manufacture it locally. Technology may be transferred only to a wholly controlled subsidiary, leaving independent domestic firms outside the network. Improvements developed by an Indian partner may be assigned to the foreign licensor or licensed back on restrictive terms. Such terms are not automatically unlawful; their effects must be assessed under contract, competition, patent and foreign-exchange rules.[22]

Compulsory licensing can alter bargaining where a patent is used to prevent access or statutory grounds are met. The credible possibility of a licence may encourage voluntary negotiations, more reasonable pricing, additional supply or local manufacturing partnerships. A licence may permit a capable Indian manufacturer to produce a patented product for a defined market. However, it is not a substitute for investment in laboratories, skilled personnel, regulatory compliance, quality assurance, supply chains and capital equipment. Without these capabilities, legal authorisation may have little practical effect.[23]

The relationship between compulsory licensing and technology transfer is indirect but significant. A licence can enable lawful use of a patented invention and support learning-by-doing. It can signal that patent exclusivity is conditional upon statutory obligations. But it cannot automatically compel transfer of undisclosed know-how, trade secrets or tacit expertise. Any proposal to require such transfer must identify a clear legal basis, procedural safeguards and appropriate compensation, and account for confidentiality and trade-secret obligations. Policy should not assume that patent law alone can solve wider industrial capability gaps.[24]

[21] United Nations Conference on Trade and Development. (2001). Transfer of technology. United Nations.
[22] Organisation for Economic Co-operation and Development. (2004). OECD guidelines for multinational enterprises. OECD Publishing.
[23] Abbott, F. M., Cottier, T., & Gurry, F. (2019). International intellectual property in an integrated world economy (4th ed.). Wolters Kluwer.
[24] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 7, 31 and 39.

CASE LAW AND ADMINISTRATIVE PRACTICE

The leading Indian example is Natco Pharma Ltd. v. Bayer Corporation, concerning Bayer's patent for sorafenib tosylate, marketed as Nexavar, a medicine used in treating certain forms of cancer. In March 2012, the Controller of Patents granted Natco a compulsory licence under Section 84. The decision considered the high price of the patented medicine, the limited number of patients able to access it, the availability of supply and whether the invention was worked in India. Natco undertook to sell the drug at a substantially lower price and pay royalty to Bayer. The Intellectual Property Appellate Board affirmed the grant in 2013 while modifying the royalty rate.[25]

The decision is important because it gave practical content to the three grounds in Section 84. It demonstrated that the statutory inquiry is not confined to whether a product is physically present in the market. Affordability, scale of supply and the extent to which public requirements are met are relevant. It also showed that a compulsory licence can be tailored: the patent remained valid, the patentee retained the right to royalties, and the licensee was subject to conditions. The case did not establish that every expensive medicine is eligible; the outcome depended on evidence and statutory criteria.

In Bayer Corporation v. Union of India, the Bombay High Court in 2014 upheld the compulsory licence. The Court considered the statutory meaning of working and the significance of public requirements and affordability. It accepted that importation may, in an appropriate case, amount to working, but mere importation does not necessarily establish that the invention is worked to the extent reasonably practicable. The judgment is frequently relied upon for the proposition that the Act requires attention to practical availability in India, not simply formal patent ownership or token market presence.[26]

Later litigation involving Bayer and patent-working requirements, including proceedings before the Delhi High Court, illustrates that the relationship between importation, local manufacture and compulsory licensing remains context-specific. The law does not create an absolute rule that every patent must be manufactured domestically. Rather, Sections 83 and 84 require examination of facts, the nature of the invention, product availability, efforts made by

[25] Natco Pharma Ltd. v. Bayer Corporation, Compulsory Licence Application No. 1 of 2011 (Controller of Patents, Mumbai, Mar. 9, 2012); Bayer Corporation v. Union of India, (2013) 55 PTC 1 (IPAB).
[26] Bayer Corporation v. Union of India, (2013) 55 PTC 1 (IPAB); Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, §§ 84 and 90.

the patentee and statutory public-interest considerations. This is relevant for foreign technologies where manufacturing may be globally distributed for legitimate economic or technical reasons.

Applications for compulsory licences concerning other pharmaceutical inventions have not necessarily succeeded. Rejection of applications concerning other patented cancer medicines indicates that a public-health concern does not dispense with proof of statutory requirements or procedural compliance. The experience demonstrates both the availability and limits of the mechanism. A disciplined approach protects patentees from arbitrary intervention and strengthens the credibility of cases in which a licence is genuinely warranted.[27]

The administrative record reveals that compulsory licensing has been used sparingly in India. Rarity may reflect the deterrent effect of the mechanism, successful voluntary licensing, commercial supply arrangements, evidentiary difficulties, procedural costs or reluctance to litigate. It should not automatically be read as proof that the law is ineffective, nor as proof that public needs are fully met. Assessment requires transparent information on applications, outcomes, market conditions, patent working and access indicators.[28]

PUBLIC INTEREST AND THE RIGHTS OF PATENT HOLDERS

Public interest is broad, but compulsory licensing must be grounded in legally cognisable criteria. In India, direct indicators include unmet reasonable requirements, lack of reasonable affordability and failure to work the invention in India. Public health is especially significant, but the framework is not limited to medicines. Industrial development, access to essential technologies, food security, environmental sustainability and sectors vital to socio-economic development may also be relevant where statutory provisions permit. The decision-maker must explain the connection between evidence and the legal ground relied upon.[29]

Patent holders, including foreign enterprises, have legitimate interests that deserve protection. Research and development is uncertain, expensive and often requires long development cycles. Patents can facilitate investment, licensing and disclosure by providing a time-limited opportunity to commercialise an invention. Foreign firms may be reluctant to transfer

[27] Lee Pharma Ltd. v. AstraZeneca AB, Compulsory Licence Application No. 1 of 2015 (Controller of Patents, Chennai, Aug. 12, 2015).
[28] Controller General of Patents, Designs and Trade Marks. (Various years). Annual reports. Government of India.
[29] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, §§ 83–84 and 92.

technology if the legal system appears to permit unpredictable appropriation, discriminatory treatment or inadequate remuneration. Such perceptions can affect willingness to enter research collaborations, license advanced processes or establish local production facilities.[30]

Protection of patent holders does not mean exclusivity must be absolute. A patent is a statutory right created within a public legal system and subject to the conditions prescribed by that system. The patentee's interest in recouping investment must be balanced against public access and the statutory obligation that patents contribute to technological innovation and dissemination. A compulsory licence that satisfies the law, is limited to its purpose and provides adequate remuneration is not equivalent to confiscation. It is a regulated limitation on exclusivity.[31]

The balance should be assessed through proportionality. First, the state should identify a legitimate statutory objective and establish reliable evidence of the problem. Secondly, it should consider whether less restrictive measures—such as procurement, price negotiation, voluntary licensing, competition enforcement or targeted subsidies—can adequately address the problem within a reasonable period. Thirdly, if a compulsory licence is necessary, its scope, duration, quantity, territory and conditions should be no broader than required. Finally, remuneration and review mechanisms should protect the patentee against arbitrary interference.[32]

This approach is particularly important where foreign investment is involved. A foreign patentee should receive national treatment and a fair opportunity to present evidence. The state should not use nationality as a proxy for non-working or abuse. At the same time, the fact that a patent is held by a multinational corporation should not immunise it from neutral statutory requirements. The governing question is conduct and public need, not nationality.[33]

[30] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 27–30.
[31] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 7, 8 and 31.
[32] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 31; Government of India. (1970). The Patents Act, 1970, §§ 84 and 90.
[33] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 3 and 4.

INVESTMENT PROTECTION, REGULATORY AUTONOMY AND CROSS-BORDER RISK

Foreign technology transfer frequently occurs within an investment relationship. An investor may establish a subsidiary, acquire shares in an Indian company, license patents and know-how, or contribute technology to a joint venture. Investment treaties may protect qualifying investments through standards such as fair and equitable treatment, protection against unlawful expropriation and non-discrimination. Intellectual property rights may fall within the definition of investment in some treaties, depending on text, ownership, applicable law and other conditions. A compulsory licence may therefore raise questions beyond domestic patent law where an investor alleges impairment of intellectual property value.[34]

The existence of an investment treaty claim does not mean that a lawful compulsory licence automatically constitutes expropriation or a treaty breach. Treaty analysis is text-specific and distinguishes genuine deprivation from non-discriminatory regulation adopted for a public purpose. The extent of interference, investor's legitimate expectations, regulatory context, due process, proportionality and treaty exceptions may be relevant. The result depends on the applicable treaty and facts. There is no universal rule that every compulsory licence is immune from investment arbitration, nor that every reduction in patent value is compensable expropriation.[35]

India's Model Bilateral Investment Treaty, 2016, is relevant because it reflects a more carefully delimited approach to investment protection and preserves regulatory space through its definitions, exceptions and treatment of intellectual property. The model text does not govern every existing treaty or every investment; the applicable instrument must be examined. Nevertheless, the policy direction illustrates an effort to avoid allowing investment protection standards to unduly constrain bona fide public regulation. The state must still act consistently, transparently and in accordance with applicable obligations.[36]

The relationship between patent and investment law requires institutional coordination. Patent

[34] United Nations Conference on Trade and Development. (2007). Bilateral investment treaties 1995–2006: Trends in investment rulemaking. United Nations.
[35] Dolzer, R., Kriebaum, U., & Schreuer, C. (2022). Principles of international investment law (3rd ed.). Oxford University Press.
[36] Government of India. (2016). Model text for the Indian bilateral investment treaty. Department of Economic Affairs, Ministry of Finance.

authorities should decide on the basis of patent legislation and evidence, not speculative fears of arbitration. Investment authorities should understand the statutory and international context of compulsory licensing before negotiating treaty language or defending disputes. Clear treaty drafting, recognition of legitimate public-welfare regulation and reasoned administrative decisions can reduce uncertainty for investors and governments.[37]

A predictable compulsory-licensing system may improve the investment environment. Investors value not only strong exclusion rights but also transparent institutions, stable rules, enforceable contracts, skilled local partners and credible dispute resolution. A system in which public-interest intervention is exceptional, evidence-based and accompanied by fair remuneration is more predictable than one in which intervention is arbitrary or legally unavailable despite serious public need.[38]

COMPARATIVE PERSPECTIVES

Comparative experience suggests that compulsory licensing is not unique to India, although legal thresholds and practical use differ. The United States has statutory mechanisms for government use of patents, including 28 U.S.C. § 1498, under which the government may use or authorise use of a patented invention subject to compensation. The provision differs from India's Section 84 process and should not be treated as identical. It illustrates that strong patent systems may retain mechanisms for public use and compensation.[39]

Canada's experience with the former pharmaceutical compulsory-licensing regime, and its later transition following TRIPS implementation, demonstrates the interaction between patent policy, generic competition and international obligations. The modern Canadian framework includes government-use provisions and other regulatory tools, but the historical regime should not be equated with current law. The lesson is that compulsory licensing is shaped by treaty commitments, domestic industrial policy and pharmaceutical-market design.[40]

Brazil has used public-health negotiation and compulsory-licensing powers to improve access

[37] United Nations Conference on Trade and Development. (2015). Investment policy framework for sustainable development. United Nations.
[38] United Nations Conference on Trade and Development. (2012). World investment report 2012: Towards a new generation of investment policies. United Nations.
[39] United States. (1948). United States Code, Title 28, § 1498.
[40] Canada. (1985). Patent Act, R.S.C., 1985, c. P-4; World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights.

to medicines. The 2007 licence for efavirenz is often discussed as an example of state bargaining leverage and generic procurement. The episode illustrates that the prospect or grant of a licence may influence price negotiations and domestic production planning. Its outcome depended on local manufacturing capacity, procurement strategy and alternative suppliers; it cannot simply be transplanted to every technology sector.[41]

The United Kingdom and other European jurisdictions retain statutory Crown-use or government-use mechanisms, while European patent law and national laws regulate compulsory licences in defined circumstances. These examples indicate that patent exclusivity and public intervention are not mutually exclusive.[42]

CHALLENGES IN USING COMPULSORY LICENSING TO PROMOTE TECHNOLOGY TRANSFER

Compulsory licensing faces several practical and legal challenges in promoting effective foreign technology transfer in India.[43]

First, the gap between patent access and technological capability remains a significant concern. A compulsory licence provides legal permission to use a patented invention but does not necessarily provide the technical expertise, infrastructure, machinery or skilled personnel required for its commercial exploitation. Domestic enterprises may therefore remain dependent on foreign manufacturers despite obtaining legal access to patented technology. Without adequate investment in research infrastructure and technical capabilities, compulsory licensing may provide formal access without ensuring meaningful technological development.[44]

Secondly, the protection of tacit knowledge and trade secrets creates another limitation. Patent specifications disclose the invention in accordance with legal requirements but may not contain all the operational knowledge necessary for commercial production. Foreign patent holders may retain confidential manufacturing processes, technical expertise and specialised production methods. Since compulsory licensing does not automatically compel the disclosure

[41] Federative Republic of Brazil. (2007). Decree No. 6,108 of May 4, 2007. Compulsory licensing of the patent for Efavirenz for public non-commercial use.
[42] United Kingdom. (1977). Patents Act 1977, c. 37, §§ 55–59; European Parliament and Council of the European Union. (2024). Regulation (EU) 2024/2747 establishing a framework of crisis and emergency measures for the internal market.
[43] Maskus, K. E. (2000). Intellectual property rights in the global economy. Institute for International Economics.
[44] World Intellectual Property Organization. (2015). Successful technology licensing. WIPO.

of such information, the licensee may continue to depend upon the foreign enterprise for essential technical assistance.[45]

Thirdly, determining adequate remuneration presents difficulties. Section 90 of the Patents Act, 1970, requires reasonable royalty and adequate remuneration for the patent holder. However, balancing the commercial value of patented technology against public affordability may create disagreements. Excessive royalties may defeat the purpose of compulsory licensing, whereas inadequate compensation may discourage foreign investment and voluntary technology-transfer arrangements.[46]

Fourthly, procedural delays and institutional limitations may reduce the effectiveness of compulsory licensing. Establishing statutory grounds requires reliable evidence concerning affordability, public demand, supply and patent working. Administrative complexity and technical assessment may delay decisions, particularly where urgent public requirements are involved.[47]

Fifthly, uncertainty for foreign investors may arise where compulsory licensing is applied without transparent procedures or sufficient justification. Arbitrary intervention may discourage foreign enterprises from sharing advanced technologies or establishing local manufacturing facilities.[48]

Regulatory fragmentation creates additional difficulties. A compulsory licence does not automatically provide environmental clearances, manufacturing approvals or other sector-specific permissions. Therefore, effective technology transfer requires coordination between patent authorities, competition regulators and industrial institutions. These challenges demonstrate that compulsory licensing must operate alongside broader technological and institutional development measures.[49]

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[45] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 39.
[46] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, § 90; World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 31(h).
[47] Government of India. (1970). The Patents Act, 1970, §§ 84, 87 and 92; Government of India. (2003). The Patents Rules, 2003, as amended.
[48] Dolzer, R., Kriebaum, U., & Schreuer, C. (2022). Principles of international investment law (3rd ed.). Oxford University Press.
[49] Government of India. (2002). The Competition Act, 2002, Act No. 12 of 2003; Government of India. (1970). The Patents Act, 1970, as amended.

RECOMMENDATIONS FOR A BALANCED FRAMEWORK

India should adopt a balanced and comprehensive approach to compulsory licensing that protects public interest while maintaining confidence in its patent and investment framework.

First, evidence-based administration of Sections 84, 92 and 92A should be strengthened. Compulsory licences must be granted on the basis of clearly established statutory grounds, supported by reliable information concerning affordability, public requirements, patent working and manufacturing capacity. Transparent and reasoned decisions would reduce uncertainty for both patent holders and prospective licensees.[50]

Secondly, patent-working information under Sections 83 and 146 should be made more meaningful and accessible. Appropriate disclosure concerning domestic manufacturing, importation, licensing and market availability would enable authorities to assess whether patented inventions are contributing to technological development and public welfare.[51] Thirdly, transparent remuneration principles should be developed under Section 90. Royalty determination should consider the economic value of the invention, research investment, market conditions and public affordability. This would protect the legitimate interests of patent holders while ensuring that compulsory licensing remains commercially viable.[52]

Fourthly, voluntary licensing and collaborative technology transfer should be encouraged. Foreign enterprises should be motivated to establish joint ventures, research partnerships and domestic manufacturing arrangements. Such agreements should facilitate access to technical documentation, training and operational expertise alongside patent rights.[53]

Fifthly, India should strengthen domestic absorptive capacity through investment in research institutions, technical education, industrial infrastructure and innovation facilities. Financial and technical assistance to domestic enterprises would enable them to utilise and develop transferred technologies effectively.[54]

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[50] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 7, 8 and 31.
[51] Government of India. (1970). The Patents Act, 1970, §§ 84, 92 and 92A.
[52] Government of India. (1970). The Patents Act, 1970, §§ 83 and 146; Government of India. (2003). The Patents Rules, 2003, as amended.
[53] Government of India. (1970). The Patents Act, 1970, § 90; World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 31(h).
[54] World Intellectual Property Organization. (2015). Successful technology licensing. WIPO.

Sixthly, coordination between patent law and competition law should be improved. Restrictive licensing arrangements and anti-competitive practices should be examined under the Competition Act, 2002, wherever applicable. This would ensure that compulsory licensing remains a proportionate response rather than the automatic solution to every technology-access problem.[55]

Seventhly, investment treaty practice should preserve legitimate regulatory autonomy while ensuring non-discriminatory treatment and procedural fairness for foreign investors. The principles reflected in India's Model Bilateral Investment Treaty, 2016, provide relevant policy guidance.[56]

Post-licensing monitoring mechanisms should ensure that licensees comply with prescribed conditions, maintain product quality, satisfy public requirements and pay appropriate royalties. These measures would transform compulsory licensing from a standalone legal remedy into an effective component of India's broader technological development strategy.[57]

CONCLUSION

Compulsory licensing occupies an important position within India's patent framework by providing a mechanism to reconcile the exclusive rights of patent holders with broader public-interest requirements. The Patents Act, 1970, particularly Sections 83, 84, 90, 92 and 92A, reflects the legislative intention that patent protection should contribute not only to commercial innovation but also to technological development, public welfare and the dissemination of knowledge.[58] The relationship between compulsory licensing and foreign technology transfer is complex. Foreign enterprises contribute advanced technologies, research expertise, investment and industrial capabilities to the Indian economy. However, restrictive licensing arrangements, unaffordable prices, inadequate supply and limitations on domestic manufacturing may create circumstances requiring public intervention. In this context, compulsory licensing provides a legal safeguard against the misuse or excessive exercise of

[55] United Nations Conference on Trade and Development. (2001). Transfer of technology. United Nations.
[56] Government of India. (2002). The Competition Act, 2002, Act No. 12 of 2003, §§ 3 and 4; Government of India. (1970). The Patents Act, 1970, as amended.
[57] Government of India. (1970). The Patents Act, 1970, §§ 90 and 146; Government of India. (2003). The Patents Rules, 2003, as amended.
[58] Government of India. (1970). The Patents Act, 1970, Act No. 39 of 1970, §§ 83, 84, 90, 92 and 92A.

patent exclusivity.[59]

The decision in Natco Pharma Ltd. v. Bayer Corporation demonstrates the practical importance of this mechanism. It established that patent rights must operate consistently with statutory requirements concerning reasonable public requirements, affordability and working of inventions. At the same time, the decision illustrates that compulsory licensing does not extinguish patent rights, as the patent holder remains entitled to remuneration under the prescribed conditions.[60]

However, compulsory licensing alone cannot ensure effective technology transfer. Legal access to patented inventions does not automatically provide confidential know-how, technical expertise, manufacturing infrastructure or skilled personnel. Therefore, India must strengthen its domestic research capabilities and encourage voluntary licensing, collaborative research and industrial partnerships.[61] The international framework under the TRIPS Agreement and the Doha Declaration provides important policy space for protecting public interest while maintaining international intellectual property obligations. Similarly, investment protection must be balanced with the state's legitimate regulatory autonomy through transparent, proportionate and non-discriminatory measures.[62]

India's objective should not be to weaken patent protection or promote compulsory licensing as a routine policy instrument. Rather, it should establish a predictable framework in which patent holders receive legitimate protection while public requirements and technological development remain adequately safeguarded. Compulsory licensing should therefore function as an exceptional but credible legal mechanism, supported by institutional coordination, fair remuneration and investment in domestic technological capabilities. Such an approach can strengthen India's technological self-reliance while maintaining its position as a credible destination for foreign investment and innovation.[63]

[59] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 7, 8 and 31.
[60] Natco Pharma Ltd. v. Bayer Corporation, Compulsory Licence Application No. 1 of 2011 (Controller of Patents, Mumbai, Mar. 9, 2012); Bayer Corporation v. Union of India, (2013) 55 PTC 1 (IPAB).
[61] World Trade Organization. (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 29 and 39; World Intellectual Property Organization. (2015). Successful technology licensing. WIPO.
[62] World Trade Organization. (2001). Declaration on the TRIPS Agreement and public health, WT/MIN(01)/DEC/2; Government of India. (2016). Model text for the Indian bilateral investment treaty.
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3. Doha Declaration on the TRIPS Agreement and Public Health, WTO Doc. WT/MIN(01)/DEC/2 (Nov. 14, 2001).

4. Protocol Amending the TRIPS Agreement, WTO Doc. WT/L/641 (Dec. 6, 2005).

5. Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as revised at Stockholm July 14, 1967.

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2. Bayer Corp. v. Union of India, W.P. No. 1323 of 2013 (Bom. H.C. July 15, 2014).

3. Bayer Corp. v. Union of India, FAO (OS) (COMM) 169 of 2017 (Delhi H.C. Apr. 22, 2019).

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