The Indian Journal for Research in Law and Management

Open Access Law Journal – Copyright © 2026

Editor-in-Chief – Dr. Muktai Deb Chavan; Publisher – Alden Vas; ISSN: 2583-9896

RESEARCH PAPER

INTERNATIONAL TRADE LAW PERSPECTIVES ON CROSS-BORDER NFT TRANSACTIONS INVOLVING GEOGRAPHICAL TRANSACTIONS

~ RANVEER SINGH TANWAR

ABSTRACT

As businesses increasingly incorporate NFTs, legal issues have expanded beyond copyright and trademarks into less explored areas of intellectual property[1], including Geographical Indications (GIs). GI protection has traditionally relied on the connection between a product, its geographical origin and the collective reputation[2] built by its producers. Although blockchain technology enables digital assets to be tokenised and traded globally through decentralised networks, existing international GI frameworks remain territorial[3], having been developed for tangible goods and conventional markets. This creates important questions regarding the ability of existing legal frameworks to regulate the cross-border commercial use of protected geographical names, products and reputations.

This paper examines the relationship between NFTs and Geographical Indications from an international trade law perspective. Using a doctrinal and comparative approach, it analyses the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), together with the legal approaches adopted in India, the European Union and the United States. It further examines scholarship on blockchain governance, digital ownership of GIs and the protection

[1] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (World Intellectual Property Organization 2022)

[2] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299

[3] Dev S. Gangjee, *Relocating the Law of Geographical Indications* (Cambridge Univ. Press 2012)

of GIs in decentralised digital markets to assess whether existing legal principles adequately prevent the commercial appropriation of geographical reputation.

The study finds that the principal legal issue lies not in blockchain technology itself but in the growing conflict between the territorial nature of GI protection and the borderless character of digital trade[4]. It argues that the tokenisation of GI-related products and reputations[5] constitutes a distinct form of commercial exploitation deserving greater attention under international trade law. By bringing together two fields of scholarship that have largely developed independently, the paper contributes to the emerging debate on regulating digital assets and proposes a principled legal framework for safeguarding Geographical Indications in an increasingly decentralised global trading system.

KEYWORDS: Non-Fungible Tokens (NFTs); Geographical Indications (GIs); Blockchain; International Trade Law; TRIPS Agreement; Digital Assets; Cross-Border Transactions; Intellectual Property

1. INTRODUCTION

As commercial applications of blockchain technology continue to expand[6], legal issues have emerged that existing intellectual property laws were not designed to address. While early discussions on Non-Fungible Tokens (NFTs) centred on art and speculation, NFTs are now increasingly used to certify goods, trace origin[7], represent real-world assets and facilitate digital transactions. As these applications evolve, blockchain technology increasingly intersects with intellectual property regimes designed for geographically bounded markets and identifiable commercial actors, creating a widening gap between traditional legal principles and decentralised digital commerce.

One area significantly affected is the law relating to Geographical Indications (GIs). Unlike patents or copyright, which protect individual innovation and creative expression, GIs safeguard the collective reputation[8] of products whose quality or goodwill is linked to a specific

[4] Daniel J. Gervais, *The TRIPS Agreement: Drafting History and Analysis* (5th ed. 2021)
[5] Primavera De Filippi & Aaron Wright, *Blockchain and the Law: The Rule of Code* (Harvard Univ. Press 2018)
[6] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (World Intellectual Property Organization 2022)
[7] European Union Intellectual Property Office, *Intellectual Property Rights and Distributed Ledger Technology* (EUIPO 2023)
[8] Irene Calboli & Ng-Loy Wee Loon eds., *Geographical Indications at the Crossroads of Trade, Development, and Culture* (Cambridge Univ. Press 2017)

geographical origin. Products such as Darjeeling Tea, Champagne, Parmigiano Reggiano, Scotch Whisky and Banarasi Sarees[9] derive their value not merely from the products themselves but from the consumer confidence and regional reputation developed over time. This connection between product and place has historically formed the conceptual foundation of GI protection under both domestic and international law.

The emergence of NFTs complicates this framework. A blockchain token may incorporate a protected geographical name, reproduce its visual identity or commercially exploit its reputation without any physical product being manufactured, sold or transferred. The more significant legal question is whether the tokenisation of geographical reputation itself constitutes a form of commercial use capable of attracting protection under existing international intellectual property law. This issue assumes greater importance because the commercial value of many such NFTs lies primarily in the goodwill associated with the protected geographical indication rather than in the digital asset itself.

The issue is particularly significant within international trade law. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) establishes minimum standards[10] for protecting Geographical Indications while leaving considerable flexibility to Member States in implementation[11]. These standards, however, were developed when international commerce primarily involved identifiable physical goods moving through conventional supply chains. NFT transactions now occur across decentralised networks[12], involve pseudonymous participants and frequently span multiple jurisdictions. Applying territorially based GI protection to such borderless digital transactions therefore presents significant legal and practical challenges.

Although scholarship on NFTs has expanded considerably, it has focused largely on copyright, trademarks, smart contracts and digital licensing. Similarly, research on Geographical Indications has concentrated on rural development[13], agriculture, consumer protection and international trade. Existing studies examine blockchain and GIs primarily address traceability,

[9] Dwijen Rangnekar, *Geographical Indications: A Review of Proposals at the TRIPS Council* (UNCTAD-ICTSD, Issue Paper No. 4, 2003)
[10] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299
[11] Daniel J. Gervais, *The TRIPS Agreement: Drafting History and Analysis* 372–412 (5th ed. 2021)
[12] OECD, *The Tokenisation of Assets and Potential Implications for Financial Markets* (2021)
[13] Food & Agric. Org. of the U.N. & World Intellectual Property Organization, *Linking People, Places and Products: A Guide for Promoting Quality Linked to Geographical Origin and Sustainable Geographical Indications* (2d ed. 2021)

provenance and supply-chain authentication rather than the legal implications of tokenising geographical names, products or reputations. Consequently, an important doctrinal gap remains regarding the treatment of GI-related NFT transactions under international trade law.

Against this backdrop, the present research examines the legal implications of cross-border NFT transactions involving Geographical Indications through a doctrinal and comparative analysis of international and domestic legal frameworks. It analyses the TRIPS Agreement together with the legal approaches adopted in India, the European Union and the United States[14], with particular emphasis on territoriality, jurisdiction, commercial use and enforcement in decentralised blockchain markets.

This paper advances two principal arguments. First, existing laws governing Geographical Indications were developed for physical markets and therefore only partially address commercial activity conducted through blockchain technology. Secondly, conventional approaches based on copyright and trademark infringement are not always adequate[15] for analysing NFTs involving Geographical Indications. Where the commercial value of an NFT is derived primarily from the reputation attached to a protected geographical indication, tokenisation itself may constitute a distinct form of commercial exploitation requiring closer examination under international trade law. The study therefore brings together scholarship on Geographical Indications, blockchain technology and digital assets to address an area that remains comparatively underexplored.

2. LITERATURE REVIEW

2.1 SCHOLARSHIP ON GEOGRAPHICAL INDICATIONS

Since the recognition of Geographical Indications (GIs) under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[16], scholarship on GIs has expanded considerably. Early studies primarily viewed GIs as commercial symbols identifying products from particular regions. Over time, however, academic focus shifted towards collective reputation, consumer protection, rural development and the relationship between intellectual

[14] Irene Calboli & Martin Senftleben eds., *The Protection of Geographical Indications in the European Union and Worldwide* (Springer 2018)
[15] Graeme B. Dinwoodie, *The Architecture of the International Intellectual Property System*, 77 Chi.-Kent L. Rev. 993 (2002)
[16] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299

property and international trade. This broader understanding recognises that the value protected by a GI extends beyond the product itself to include the goodwill and reputation associated with its geographical origin.

Among the leading scholars, Dev Gangjee reconceptualises Geographical Indications as collective reputational rights rather than mere indicators of commercial source. His work emphasises the accumulated reputation arising from geographical conditions, traditional production methods and community knowledge. Daniel Gervais approaches[17] the subject from the perspective of international trade law, examining the institutional development of GI protection under Articles 22–24 of the TRIPS Agreement. While Gangjee explains why geographical reputation deserves legal protection, Gervais analyses how that protection has evolved within the multilateral trading system. Irene Calboli complements[18] both perspectives by demonstrating that different regulatory models ultimately pursue similar objectives despite their structural differences.

Another significant body of scholarship examines the developmental role of Geographical Indications. Dwijen Rangnekar argues[19] that effective GI protection promotes rural economic development, preserves traditional knowledge and strengthens fair competition in international markets. Similar views are reflected in publications of the World Intellectual Property Organization (WIPO) and the Food and Agriculture Organization (FAO)[20], which regard GIs as instruments for supporting local economies while preserving cultural heritage. Collectively, this literature assumes that commercial value remains linked to tangible goods moving through traditional supply chains. That assumption becomes increasingly difficult to sustain where commercial value is transferred independently through blockchain-based digital assets.

[17] Daniel J. Gervais, *The TRIPS Agreement: Drafting History and Analysis* (5th ed. 2021)
[18] Irene Calboli, *Geographical Indications Between Trade, Development, Culture, and Marketing: Framing a Fair(er) System of Protection in the Global Economy?* in *Geographical Indications at the Crossroads of Trade, Development, and Culture* (Irene Calboli & Ng-Loy Wee Loon eds., 2017)
[19] Dwijen Rangnekar, *The Socio-Economics of Geographical Indications: A Review of Empirical Evidence from Europe* (UNCTAD-ICTSD, 2004)
[20] Food & Agric. Org. of the U.N. & World Intellectual Property Organization, *Linking People, Places and Products: A Guide for Promoting Quality Linked to Geographical Origin and Sustainable Geographical Indications* (2d ed. 2021)

2.2 SCHOLARSHIP ON NFTS AND INTELLECTUAL PROPERTY

Academic research on Non-Fungible Tokens has expanded rapidly, focusing primarily on copyright, trademarks, contractual licensing and digital ownership[21]. A widely accepted proposition within this literature is that ownership of an NFT does not amount to ownership of the underlying intellectual property[22]. Rather, purchasers generally acquire ownership of the blockchain token together with any contractual rights attached to it. This distinction has become one of the foundational principles of NFT scholarship.

Dinusha Mendis has been among the leading scholars examining the relationship between blockchain technology and intellectual property law. Her work argues that NFTs do not create a new category of intellectual property but remain governed by existing principles of copyright, trademark and contractual licensing[23]. Although blockchain records the minting and transfer of tokens, it neither guarantees ownership of the underlying work nor prevents unauthorised minting[24]. Consequently, many disputes involving NFTs ultimately concern conventional intellectual property issues rather than blockchain-specific rights.

Another strand of scholarship considers the broader theoretical implications of NFTs[25]. Mark Lemley questions whether technological scarcity should automatically justify legal exclusivity, arguing that blockchain may authenticate digital assets without restricting copying. Graeme Dinwoodie similarly cautions against the unnecessary expansion of intellectual property rights in response to digital commerce[26]. Although these scholars approach the subject differently, both emphasise the need for principled legal reasoning before extending existing intellectual property protections.

Recent scholarship increasingly addresses decentralised digital marketplaces, platform governance, intermediary liability and cross-border blockchain transactions[27]. However,

---

[21] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (WIPO 2022)
[22] Andres Guadamuz, *The Treachery of Images: Non-Fungible Tokens and Copyright*, 16 J. Intell. Prop. L. & Prac. 1367 (2021)
[23] Andres Guadamuz, *The Treachery of Images: Non-Fungible Tokens and Copyright*, 16 J. Intell. Prop. L. & Prac. 1367 (2021)
[24] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (WIPO 2022)
[25] Mark A. Lemley, *IP in a World Without Scarcity*, 90 N.Y.U. L. Rev. 460 (2015)
[26] Graeme B. Dinwoodie, *The Architecture of the International Intellectual Property System*, 77 Chi.-Kent L. Rev. 993 (2002)
[27] OECD, *The Tokenisation of Assets and Potential Implications for Financial Markets* (2021)

Geographical Indications receive little attention within this literature. Existing research remains overwhelmingly focused on copyright and trademarks, leaving comparatively unexplored the legal implications of intellectual property rights whose commercial value derives primarily from collective geographical reputation.

2.3 BLOCKCHAIN TECHNOLOGY AND GEOGRAPHICAL INDICATIONS

The relationship between blockchain technology and Geographical Indications (GIs) has received increasing academic attention in recent years[28], although it has largely developed independently of NFT scholarship. Most studies examine blockchain as a tool for improving supply-chain traceability, authenticity and transparency rather than analysing tokenised digital assets[29]. This scholarship is based on the premise that reliable information regarding geographical origin, production methods and quality assurance strengthens consumer confidence in GI-protected products. Distributed ledger technology (DLT) is therefore viewed as a means of supporting these objectives.

Some commentators argue that blockchain technology and Geographical Indications are conceptually complementary. She suggests that blockchain can strengthen the evidentiary value of GIs[30] by maintaining transparent records of each stage of commercial distribution, thereby reducing counterfeiting and misleading practices. Similarly, reports published by the World Intellectual Property Organization (WIPO) identify distributed ledger technology as a valuable tool for verifying provenance, facilitating licensing and improving digital record-keeping. In each of these approaches, blockchain functions as a mechanism for reinforcing existing legal protection rather than replacing it.

Nevertheless, the literature also recognises important practical limitations, including inadequate technological infrastructure, implementation costs, interoperability concerns and continuing regulatory uncertainty[31]. More significantly, existing research almost exclusively examines blockchain in relation to physical goods. Comparatively little attention has been

[28] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (WIPO 2022)
[29] Food & Agric. Org. of the U.N. & World Intellectual Property Organization, *Linking People, Places and Products: A Guide for Promoting Quality Linked to Geographical Origin and Sustainable Geographical Indications* (2d ed. 2021)
[30] Food & Agric. Org. of the U.N. & World Intellectual Property Organization, *Linking People, Places and Products* (2d ed. 2021)
[31] Organisation for Economic Co-operation and Development, *The Tokenisation of Assets and Potential Implications for Financial Markets* (2021)

given to situations in which blockchain enables geographical reputation itself to become a tradable digital asset. Consequently, the current literature does not fully address the legal challenges presented by NFTs associated with Geographical Indications.

2.4 NFTS, INTERNATIONAL TRADE AND THE EMERGING DIGITAL ECONOMY

The growth of decentralised digital commerce has challenged many of the territorial assumptions underlying international intellectual property law. NFT transactions commonly involve creators, marketplace operators, buyers and sellers located across multiple jurisdictions[32], making it increasingly difficult to determine the applicable law, establish jurisdiction and enforce legal remedies[33]. These practical challenges have generated substantial scholarship on Web3 technologies, virtual marketplaces and international digital regulation.

However, the implications of these developments for Geographical Indications remain comparatively underexplored. Existing research continues to focus primarily on copyright ownership, trademark infringement and virtual property rights. While understandable given the commercial significance of digital art and online branding, this emphasis overlooks disputes where commercial value is derived principally from geographically protected reputation rather than creative expression or commercial identity.

This issue is particularly significant because the principal economic value of many GI-related NFTs lies in the goodwill associated with a protected geographical name[34] rather than in the token itself. Once that reputation can be commercially traded on blockchain without the involvement of authorised producers, traditional concepts of territoriality, consumer perception and commercial use become increasingly difficult to apply. Although the literature recognises elements of this problem, a coherent analytical framework for resolving it has yet to emerge.

2.5 RESEARCH GAP

The existing literature demonstrates that Geographical Indications, blockchain technology and Non-Fungible Tokens have largely been examined as separate areas of scholarship. Research on GIs continues to focus on collective reputation, agricultural development and international

[32] Organisation for Economic Co-operation and Development, *The Tokenisation of Assets and Potential Implications for Financial Markets* (2021); Daniel J. Gervais, *The TRIPS Agreement: Drafting History and Analysis* (5th ed. 2021)
[33] UNCITRAL, *Technical Notes on Online Dispute Resolution* (2016)
[34] Dev S. Gangjee, *Relocating the Law of Geographical Indications* (Cambridge Univ. Press 2012)

trade, whereas NFT scholarship remains centred on copyright, trademarks and digital ownership. Likewise, studies examining blockchain and Geographical Indications primarily address traceability and product authentication rather than the commercialisation of geographical reputation through digital assets.

As a result, a significant doctrinal gap remains. While existing scholarship recognises both the importance of protecting geographical reputation and the emergence of decentralised digital commerce, it offers limited guidance on the legal consequences of their intersection. Questions concerning the commercial use of tokenised geographical names, the application of existing legal obligations to digital representations of geographical reputation and their enforcement within decentralised blockchain environments remain largely unanswered[35].

The present study seeks to address this gap by examining NFT transactions involving Geographical Indications from the perspective of international trade law rather than limiting the analysis to copyright or trademark infringement. It argues that the central challenge lies in reconciling territorially protected intellectual property rights with borderless digital commerce, where commercial value increasingly circulates independently of physical goods. In doing so, the study brings together two strands of scholarship that have developed separately but are becoming increasingly interconnected as blockchain technology reshapes international trade.

3. METHODOLOGY

This study adopts a doctrinal legal research methodology supported by comparative legal analysis. This approach is appropriate because the issues examined are primarily concerned with the interpretation and application of existing legal principles rather than empirical investigation. The principal objective is to determine whether the existing international legal framework governing Geographical Indications can adequately address disputes involving Non-Fungible Tokens within decentralised blockchain systems.

The research relies primarily on legal sources, including the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the Paris Convention for the Protection of Industrial Property, the Lisbon Agreement for the Protection of Appellations of Origin and their International Registration, the Geneva Act of the Lisbon Agreement, and the

[35] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299

Geographical Indications laws of India, the European Union and the United States[36]. These instruments provide the doctrinal basis for analysing the territorial scope of GI protection and its application to cross-border blockchain transactions.

To support the primary legal analysis, the study also examines secondary sources, including academic monographs, peer-reviewed journal articles and institutional publications issued by the World Intellectual Property Organization (WIPO), the World Trade Organization (WTO), the European Union Intellectual Property Office (EUIPO), the Organisation for Economic Co-operation and Development (OECD) and the Food and Agriculture Organization (FAO). These materials assist in evaluating competing academic perspectives on Geographical Indications, blockchain governance, digital ownership and NFT regulation within the broader international legal context[37].

The comparative analysis focuses on three jurisdictions representing distinct models of GI protection. The European Union follows a comprehensive *sui generis* system, the United States primarily relies upon certification marks and unfair competition law, while India has established an independent statutory framework that increasingly supports rural development, traditional knowledge and export promotion. Examining these jurisdictions comparatively provides a clearer understanding of the legal issues arising from cross-border blockchain transactions.

The scope of this research remains doctrinal. It does not examine the technical architecture of blockchain networks, the commercial viability of NFTs or the economics of digital asset markets. Instead, the analysis is confined to the legal implications arising from the commercial use of Geographical Indications in decentralised NFT transactions and the applicability of existing international trade law. Where judicial guidance is unavailable, carefully framed

[36] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299; Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as revised at Stockholm July 14, 1967, 21 U.S.T. 1583; Lisbon Agreement for the Protection of Appellations of Origin and Their International Registration, Oct. 31, 1958, 923 U.N.T.S. 205; Geneva Act of the Lisbon Agreement on Appellations of Origin and Geographical Indications, May 20, 2015

[37] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (2022); European Union Intellectual Property Office, *Intellectual Property Rights and Distributed Ledger Technology* (2023); Organisation for Economic Co-operation and Development, *The Tokenisation of Assets and Potential Implications for Financial Markets* (2021)

hypothetical illustrations are used solely to explain legal principles rather than to substitute speculation for legal analysis.

4. MAIN ANALYSIS

4.1 NFTS, DIGITAL OWNERSHIP AND THE COMMERCIAL USE OF GEOGRAPHICAL REPUTATION

Legal scholarship on Non-Fungible Tokens has largely focused on ownership, copyright transfer, digital assets and the legal implications of smart contracts[38]. While these issues remain important, they do not sufficiently explain disputes involving Geographical Indications. In such cases, the central issue is not ownership of the token itself but the commercial exploitation of a geographically protected reputation within decentralised digital markets.

Unlike copyright, which protects original expression, or trademarks, which identify commercial origin, Geographical Indications derive their value from the collective goodwill associated with a particular geographical region[39]. Their economic significance results from the historical relationship between geography, traditional production methods and consumer confidence. Consequently, where an NFT incorporates a protected geographical name, visual identity or associated goodwill, its commercial value frequently depends more upon that pre-existing reputation than upon the digital token itself.

For instance, an NFT marketed as “Authentic Darjeeling Heritage Collection” does not transfer tea or proprietary rights relating to the Darjeeling Geographical Indication. Instead, its market value derives almost entirely from the commercial appeal of the name "Darjeeling"[40]. The transaction therefore monetises geographical reputation without involving any exchange of GI-protected goods. This distinction is significant because existing legal analysis often concentrates on ownership of protected geographical identity rather than the commercial appropriation of its economic value.

---

[38] Andres Guadamuz, *The Treachery of Images: Non-Fungible Tokens and Copyright*, 16 J. Intell. Prop. L. & Prac. 1367 (2021)

[39] Agreement on Trade-Related Aspects of Intellectual Property Rights art. 22(1), Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299; Dev S. Gangjee, *Relocating the Law of Geographical Indications* (Cambridge Univ. Press 2012)

[40] Tea Board, India v. ITC Ltd., (2011) 5 SCC 742

A similar principle can be observed in Hermès International v. Rothschild (MetaBirkins)[41]**.** Although the dispute concerned trademarks rather than Geographical Indications, it demonstrated that blockchain-based digital assets can commercially exploit legally protected reputations without involving the physical products themselves. The case illustrates a broader principle relevant to this study: tokenisation can unlock and monetise existing reputational value without requiring the underlying product to be digitised. The same reasoning may apply where the reputation being commercialised belongs collectively to producers protected by a Geographical Indication.

Accordingly, NFTs associated with Geographical Indications cannot be examined solely through the framework of copyright or trademark law. The more fundamental question is whether the tokenisation of a protected geographical reputation constitutes an independent form of commercial use capable of attracting protection under existing international trade law[42]. Although scholarship has begun to recognise this issue, it remains comparatively underdeveloped.

4.2 TERRITORIAL RIGHTS WITHIN DECENTRALISED DIGITAL COMMERCE

Territoriality has long been a defining feature of Geographical Indications, as protection depends upon the connection between a product and its geographical origin[43]. International agreements recognise this relationship by requiring Member States to prevent misleading commercial use of protected geographical names and practices capable of deceiving consumers regarding origin[44]. The territorial connection therefore remains central to the legal framework governing GI protection.

Blockchain technology challenges this assumption[45]. NFT transactions rarely occur within a single jurisdiction. A token may be minted in one country, traded through a decentralised marketplace in another, purchased by a user elsewhere and permanently recorded across

[41] *Hermès Int'l v. Rothschild*, 590 F. Supp. 3d 647 (S.D.N.Y. 2023), aff'd, No. 23-82 (2d Cir. 2025)
[42] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299
[43] Agreement on Trade-Related Aspects of Intellectual Property Rights art. 22(1), Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299; Dev S. Gangjee, *Relocating the Law of Geographical Indications* (Cambridge Univ. Press 2012)
[44] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–23, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299
[45] Organisation for Economic Co-operation and Development, *The Tokenisation of Assets and Potential Implications for Financial Markets* (2021)

blockchain nodes located worldwide. In such circumstances, identifying a single territorial connection becomes increasingly difficult[46].

The implications extend beyond procedural concerns to the substance of legal protection itself. Geographical Indications are protected through national registration systems operating within the framework of the TRIPS Agreement. By contrast, it remains uncertain whether the commercial use of a protected geographical name within an NFT constitutes "use" for the purposes of Articles 22 and 23 of TRIPS[47]. The Agreement neither expressly addresses digital assets detached from physical products nor provides subsequent guidance on this issue.

The challenge is therefore not merely technological but conceptual. Territorial principles developed for conventional commerce must now operate within digital markets where commercial value increasingly circulates independently of physical goods. A purposive interpretation of GI protection should therefore focus on preventing the commercial exploitation of geographical reputation rather than limiting protection to transactions involving tangible products[48]. Such an approach would remain consistent with the objectives of Geographical Indications while accommodating emerging forms of digital commerce.

4.3 JURISDICTIONAL CHALLENGES IN CROSS-BORDER NFT TRANSACTIONS INVOLVING GEOGRAPHICAL INDICATIONS

The decentralised nature of blockchain technology creates jurisdictional challenges that existing intellectual property frameworks were not designed to address. Conventional GI disputes generally arise within identifiable territories where courts can determine the applicable law based on the place of production, registration or commercial use. NFT transactions, however, often involve multiple jurisdictions simultaneously, making these connecting factors increasingly uncertain.

A single NFT transaction may involve a creator located in one country, a marketplace operating elsewhere, blockchain validators distributed across several jurisdictions and purchasers residing globally. This decentralised structure makes it difficult to identify the place where

[46] UNCITRAL, *Technical Notes on Online Dispute Resolution* (2016)

[47] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22-23, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299

[48] Daniel J. Gervais, *The TRIPS Agreement: Drafting History and Analysis* (5th ed. 2021)

commercial use occurs, determine the applicable law or establish jurisdiction. Traditional principles based on territorial registration therefore become increasingly difficult to apply in digital markets[49].

The TRIPS Agreement requires Member States to provide legal protection against misleading commercial use of Geographical Indications but does not prescribe jurisdictional rules for cross-border digital disputes[50]. Similarly, neither the Paris Convention nor the Lisbon Agreement addresses decentralised blockchain transactions. Consequently, courts must continue relying upon private international law principles developed for conventional commercial activity, despite the fundamentally different nature of blockchain-based transactions.

This uncertainty also creates enforcement challenges. Even where a court determines that an NFT unlawfully exploits a protected Geographical Indication, effective remedies may remain difficult to enforce against anonymous users, decentralised marketplaces or blockchain records that cannot easily be altered or removed. The practical effectiveness of GI protection therefore depends not only on recognising legal rights but also on the availability of meaningful enforcement mechanisms[51].

These developments demonstrate that jurisdictional uncertainty is not simply a procedural issue but directly affects the effectiveness of international GI protection. Unless existing legal principles evolve to accommodate decentralised commerce, cross-border NFT transactions will continue exposing significant gaps in the enforcement of Geographical Indications.

4.4 TOWARDS A PRINCIPLED LEGAL FRAMEWORK FOR GI-RELATED NFTS

The preceding analysis demonstrates that existing international legal frameworks only partially address NFT transactions involving Geographical Indications[52]. Although current laws provide protection against misleading commercial use of protected geographical names, they were

[49] Organisation for Economic Co-operation and Development, *The Tokenisation of Assets and Potential Implications for Financial Markets* (2021); UNCITRAL, *Technical Notes on Online Dispute Resolution* (2016)
[50] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299; Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as revised
[51] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (2022)
[52] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299

developed primarily for physical goods and conventional markets[53]. As blockchain technology enables geographical reputation to be commercially exploited through digital assets, important questions arise regarding the scope of existing legal protection.

Rather than creating an entirely new category of intellectual property, a more coherent approach is to interpret existing GI principles in light of evolving forms of digital commerce. The central objective of Geographical Indications has always been to prevent the unauthorised commercial exploitation of geographical reputation. That objective remains equally relevant where such exploitation occurs through NFTs rather than through physical goods.

Accordingly, greater emphasis should be placed on the commercial function performed by an NFT rather than on its technological form[54]. Where the primary value of a token derives from the reputation associated with a protected Geographical Indication, the transaction should be examined according to its commercial effect rather than the digital medium through which it is conducted. Such an approach remains consistent with the underlying objectives of the TRIPS Agreement while allowing existing legal principles to respond to technological developments.

This interpretation also avoids unnecessary expansion of intellectual property rights. Instead of creating a separate legal regime for blockchain assets, it applies established principles governing commercial exploitation and consumer protection to emerging digital markets. In doing so, it preserves the territorial foundation of Geographical Indications while recognising that commercial value increasingly circulates through decentralised digital systems.

The analysis therefore supports a principled evolution of existing international trade law rather than wholesale legislative reform. Such an approach provides greater legal certainty while maintaining consistency with the objectives underlying international protection of Geographical Indications.

5. DISCUSSION

The preceding analysis demonstrates that the legal challenges posed by NFT transactions involving Geographical Indications cannot be adequately resolved by applying traditional intellectual property principles alone. Existing international frameworks were developed for

[53] Daniel J. Gervais, *The TRIPS Agreement: Drafting History and Analysis* (5th ed. 2021)
[54] Dev S. Gangjee, *Relocating the Law of Geographical Indications* (Cambridge Univ. Press 2012)

commercial activities involving tangible goods, identifiable market participants and territorially confined transactions. Blockchain technology alters these assumptions by enabling geographical reputation to be commercially exploited through decentralised digital assets.

This does not mean that existing international instruments have become obsolete. The principles underlying the TRIPS Agreement[55] remain relevant because their primary objective is to prevent misleading commercial practices and protect the goodwill associated with Geographical Indications. However, applying those principles to blockchain transactions requires interpretation that recognises the commercial realities of decentralised digital markets rather than limiting protection to physical goods.

The comparative analysis also demonstrates that different jurisdictions approach GI protection through distinct legal mechanisms[56]. The European Union relies upon a comprehensive sui generis regime, the United States primarily employs certification marks, while India follows an independent statutory model. Despite these structural differences, each system seeks to prevent unauthorised commercial exploitation of geographical reputation. This shared objective provides a useful foundation for addressing NFT-related disputes even where legislative provisions differ.

The principal legal issue therefore extends beyond blockchain technology itself. The challenge lies in determining whether existing concepts of commercial use, territoriality and consumer deception remain sufficiently flexible to address transactions where geographical reputation is monetised independently of the underlying product. Current legal frameworks provide only partial answers, creating uncertainty for producers, consumers and regulators.

Accordingly, the issue should not be viewed as requiring an entirely new category of intellectual property rights. Rather, it calls for a principled interpretation of existing GI protections that preserves their underlying objectives while recognising the realities of decentralised digital commerce. Such an approach promotes legal certainty without unnecessarily expanding intellectual property law.

---

[55] Daniel J. Gervais, *The TRIPS Agreement: Drafting History and Analysis* (5th ed. 2021)

[56] Regulation (EU) 2024/1143 of the European Parliament and of the Council of 11 April 2024 on Geographical Indications; The Geographical Indications of Goods (Registration and Protection) Act, No. 48 of 1999 (India); Lanham Act, 15 U.S.C. §§ 1051–1141n

6. RECOMMENDATIONS

In light of the foregoing analysis, several measures may strengthen the protection of Geographical Indications within decentralised digital markets.

i. First, interpretative guidance should clarify that the commercial exploitation of geographical reputation through NFTs may constitute commercial use under existing international GI principles[57] where consumers are likely to associate the token with a protected Geographical Indication.
ii. Secondly, greater international cooperation is required to address jurisdictional uncertainty in cross-border blockchain disputes. Since NFT transactions routinely involve multiple jurisdictions, coordinated enforcement mechanisms would improve the effectiveness of existing legal protections.
iii. Thirdly, blockchain marketplaces should adopt clearer policies governing the unauthorised use of protected geographical names[58]. While private platforms cannot replace legal regulation, responsible marketplace governance can significantly reduce misleading commercial practices.
iv. Finally, future policy discussions within international organisations such as the WTO and WIPO[59] should consider the implications of decentralised digital assets for Geographical Indications. Clarifying the application of existing legal principles would provide greater certainty while avoiding unnecessary legislative expansion.

These measures would strengthen the protection of Geographical Indications in digital markets without departing from the existing framework of international trade law.

7. CONCLUSION

The rapid growth of blockchain technology and Non-Fungible Tokens has created legal questions that traditional intellectual property frameworks did not anticipate. Although considerable scholarship has examined NFTs in relation to copyright and trademarks, comparatively little attention has been given to their implications for Geographical Indications.

[57] Agreement on Trade-Related Aspects of Intellectual Property Rights arts. 22–24, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299
[58] World Intellectual Property Organization, *Blockchain Technologies and IP Ecosystems: A WIPO White Paper* (2022)
[59] Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 154; Convention Establishing the World Intellectual Property Organization, July 14, 1967, 828 U.N.T.S. 3

This paper has sought to address that gap by examining cross-border NFT transactions from the perspective of international trade law.

The analysis demonstrates that the principal challenge lies not in blockchain technology itself but in the tension between the territorial nature of GI protection and the borderless character of decentralised digital commerce. Existing international legal instruments continue to provide an important foundation for protecting geographical reputation, yet their application to NFT transactions remains uncertain where commercial value is detached from physical goods.

Through a doctrinal and comparative analysis of the TRIPS Agreement and the legal approaches of India, the European Union and the United States, this study argues that tokenisation of geographical reputation may constitute a distinct form of commercial exploitation requiring closer legal scrutiny. The issue is therefore not whether new intellectual property rights should be created, but whether existing principles can be interpreted consistently with emerging forms of digital trade.

As blockchain technology continues to reshape international commerce, legal frameworks governing Geographical Indications must evolve without departing from their foundational objectives. A principled interpretation of existing international trade law offers the most coherent means of protecting geographical reputation while accommodating innovation in decentralised digital markets.