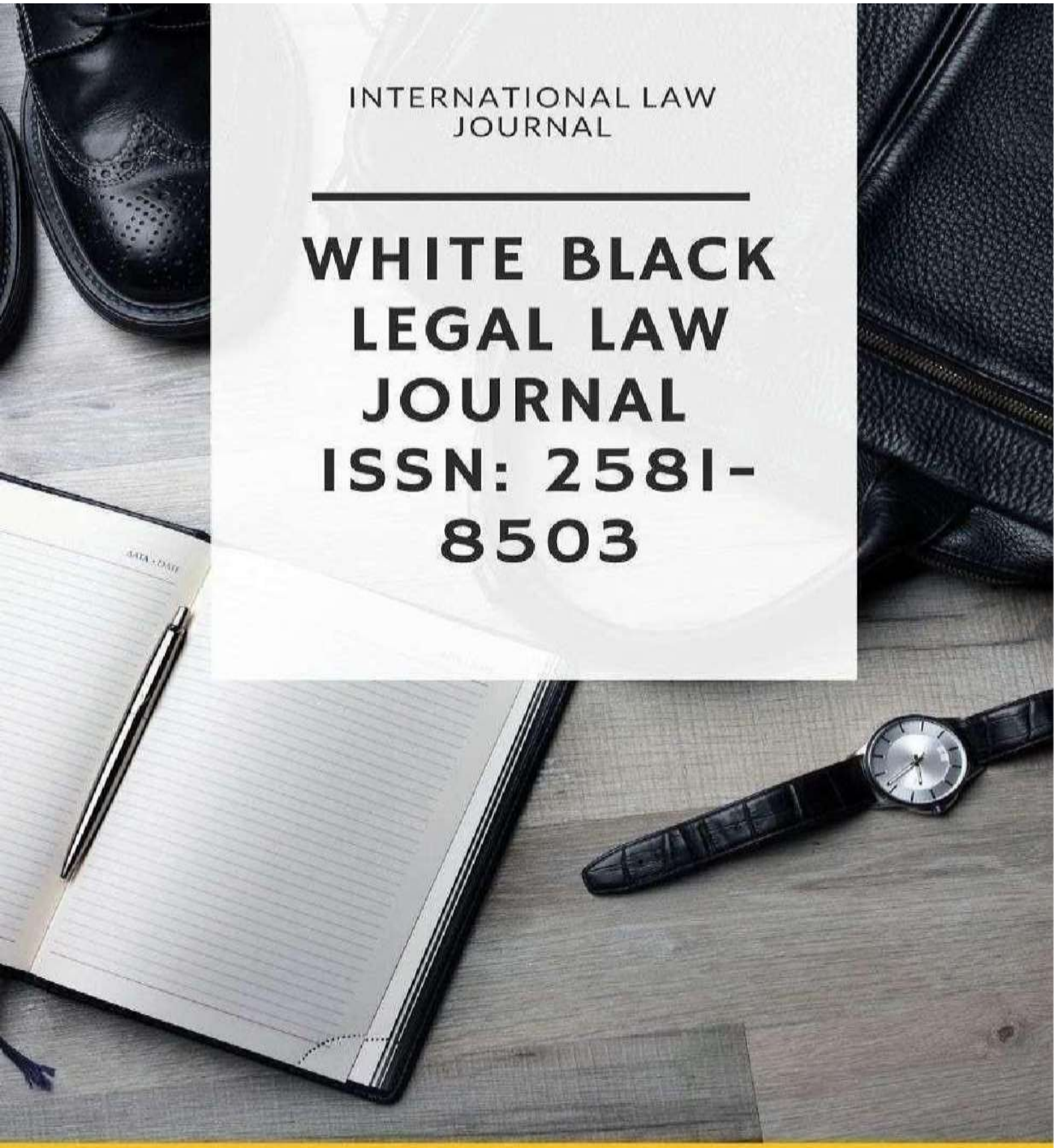

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LEGAL STATUS OF METAVERSE ASSETS: CHALLENGES AND THE NEED FOR A REGULATORY FRAMEWORK IN INDIA.

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ABSTRACT

The metaverse is a network of continuous, immersive, and interoperable virtual worlds that in a few years, have moved out of the science-fiction imagining to a multi-trillion-dollar economic frontier. In such settings, assets of all kinds that the virtual world has to offer such as land, avatars, in-game currencies, non-fungible tokens (NFTs), wearable digital items, and intellectual property are bought, sold, inherited and litigated with a ferocity that does not match their perceived intangibility. However, the legal framework that regulates such transactions in India is patchy, unclear, and, in most aspects, lacks entirely or completely.

This dissertation has carried out a methodical analysis of the legal position of metaverse assets in India. It questions whether current property law, contract law, intellectual property law, securities regulation, data protection law and consumer protection law are sufficient to address the intricate rights and liabilities that are presented in virtual environments. Basing on domestic law, judicial precedents, and a comparative study of regulatory trends in the United States, the European Union, the United Kingdom, and Singapore, among others, the dissertation holds that metaverse assets are in an area of legal indeterminacy that requires immediate regulatory action.

The dissertation also argues that India, which is soon to emerge as one of the largest metaverse user-bases in the world, experiences a rare intersection of issues: Indian constitutional uncertainties about property rights, a secondary market in digital assets that is yet to be created, a virtual economy that is unfamiliar but growing, and the near-complete lack of specific legislative guidance. It concludes by proposing a multi-tiered regulatory framework grounded in existing constitutional and statutory architecture, supplemented by targeted legislative interventions, institutional coordination mechanisms, and international harmonisation commitments.

Keywords: Metaverse, Virtual Property, Digital Assets, Regulatory Framework India, Intellectual Property.

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CHAPTER I: INTRODUCTION

1.1 Background and Contextualisation

In 1992, the science-fiction novelist Neal Stephenson imagined a parallel digital universe he called the 'metaverse' — a vast, immersive virtual realm where human beings, represented as avatars, could work, play, trade, and socialise free from the physical constraints

of the corporeal world. Three decades on, that literary conceit has become a multi-trillion-dollar commercial reality. Major technology corporations, venture capital funds, sovereign wealth funds, entertainment studios, and retail consumers now invest in — and derive economic value from — digital environments that are persistent, three-dimensional, and, in key respects, parallel to the physical economy.

The year 2021 marked a decisive inflection point. Facebook Incorporated's rebranding as Meta Platforms, coupled with Mark Zuckerberg's public articulation of a 'metaverse-first' corporate vision, catalysed a wave of investment and speculation. Citibank estimated the metaverse economy at between USD 8 trillion and USD 13 trillion by 2030. McKinsey & Company projected that businesses would generate USD 2 trillion to USD 2.6 trillion from e-commerce in virtual environments by the same date. The virtual real-estate platform Decentraland witnessed a USD 2.43 million parcel sale, while Roblox Corporation reported paying out USD 741 million to its developer community in a single financial year.

These transactions involve assets of every description: parcels of virtual land, avatar customisation items, digital artworks encapsulated within non-fungible tokens (NFTs), in-world currencies, intellectual creations built upon platform APIs, and complex financial instruments structured around blockchain protocols. The aggregate economic significance of these assets is no longer trivial. Yet their legal status — whether they constitute property, what rights attach to their ownership, who bears liability for their loss or infringement, and which sovereign jurisdiction governs disputes arising from their trade — remains profoundly uncertain.

Nowhere is this uncertainty more acute than in India. With a population of 1.4 billion and internet penetration growing at pace, India is projected to become one of the world's top three metaverse user-bases within the decade. Indian consumers already spend significant sums on in-game purchases, virtual goods, and digital collectibles. Yet the Indian legal system — constitutionally grounded in a framework of tangible property rights, governed by centuries-old property and contract legislation, and administered by courts only beginning to grapple with digital economy disputes — offers no coherent doctrinal home for metaverse assets.

1.2 Statement of the Problem

The fundamental problem this dissertation addresses is the legal indeterminacy of metaverse assets in India. This indeterminacy has at least three distinct dimensions. First, there is the question of classification: are metaverse assets property, contractual entitlements, licensed services, securities, or something else entirely? The answer determines which body of law applies, which remedies are available, and which courts or tribunals have jurisdiction.

Second, there is the question of regulation: even if the classification problem were resolved, the existing statutory and regulatory apparatus in India was not designed with immersive virtual environments in mind, and its application to metaverse assets produces inconsistencies, lacunae, and, at times, results that are commercially absurd. Third, the question of institutional capacity: the regulatory authorities and courts with the capability to regulate the assets in the metaverse, SEBI, RBI, MeitY, TRAI, the Income Tax authorities, the consumer courts, do not have an overall coordination mechanism, as they have partial jurisdiction.

These three aspects of indeterminacy compound each other. A digital land-parcel on a blockchain-based platform can be characterised as property (and subject to the Transfer of Property Act 1882), a contractual licence (under the Indian Contract Act 1872 and the Terms of Service on the platform), a virtual digital asset (with taxation under the Finance Act 2022), and as a consumer good (invoking the Consumer Protection Act 2019). There are therefore a number of regulatory regimes which apply without offering full governance and the user is in a state of legal precarity.

1.3 Research Objectives

There are five major research objectives in this dissertation. First to survey and analyse the current legal frameworks property law, intellectual property law, contract law, securities regulation, data protection law and consumer protection law as they do, or do not, apply to metaverse assets in India. Second, to analyze the case law (both domestic and foreign) that has dealt with similar disputes concerning digital assets, with an eye to identifying transferable doctrinal principles. Third, to delve into a comparative study of regulatory strategies used in the United States, the European Union, the United Kingdom, Singapore, and other developed jurisdictions, and evaluate their applicability or adaptability to the Indian context. Fourth, to determine the particular legislative, regulatory and institutional loopholes that create the above-described indeterminacy. Fifth, to recommend a consistent, multi-level regulatory framework of metaverse assets in India, based on constitutional permissibility, legislative practicability, and best practice.

1.4 Research Questions

The above objectives are structured around four general research questions.

1. Does current Indian law (without legislative change) provide sufficient safeguards against the rights of metaverse asset holders?
2. What can Indian policymakers learn about the regulatory reactions of other jurisdictions to virtual assets and immersive digital worlds?

3. What are the targeted doctrinal, statutory, and institutional changes to establish an effective regulatory framework of metaverse assets in India?
4. What must any such structure trade off the competing demands of innovation facilitation, consumer protection, financial stability and national security?

1.5 Significance of the Study

The meaning of this study is both theoretical and practical. On the doctrinal front, the issue of the legal status of metaverse assets drives the property theory, intellectual property doctrine, and contract law to conceptual extremes. Virtual property raises Lockean theory of labour property and romantic vision of authorship as violently as it does the bilateral model of bilateral contractual exchange. The dissertation helps advance a body of scholarship on the jurisprudence of digital things in grappling with these issues. At the pragmatic level, the stakes might not be more. The 2022 Ronin Network hack, where USD 625 million in digital assets were taken out of the Axie Infinity blockchain gaming ecosystem, provided a visceral example of the money that may be lost in the real world in the event of poor governance of virtual space. Indian retail investors hold significant exposures to cryptocurrencies and NFTs, and the absence of regulatory protection means that, when platforms collapse, hacks occur, or platform operators change their Terms of Service unilaterally, affected users have no reliable legal recourse.

1.6 Scope and Limitations

This dissertation focuses on the legal status of assets created, traded, or held within metaverse platforms, broadly understood. The term 'metaverse assets' is used to encompass ; virtual land and real estate; avatar identity assets (skins, wearables, accessories); in-world currencies (both fungible tokens and platform-specific currencies); non-fungible tokens representing artworks, collectibles, or access rights; and intellectual creations (including user-generated content) produced within or for metaverse environments. The dissertation does not address the regulation of metaverse infrastructure (hardware, networking, cloud computing) or the employment and labour law dimensions of gig work in virtual environments, both of which merit separate treatment.

The geographical focus is India, though the comparative analysis necessarily ranges across multiple jurisdictions. The dissertation reflects the law as it stood as of March 2025. The pace of legislative and regulatory change in this area is rapid, and developments after that date are not systematically addressed, though the proposed framework is designed to be sufficiently principled to accommodate such developments.

1.7 Research Methodology

The approach is dogmatic, and a comparative and policy aspect. The major sources to be studied include Indian laws (acts, regulations, and rules), judicial rulings of the Supreme Court and the High Courts, regulatory instructions by SEBI, RBI, MeitY and TRAI, and the constitution. They are complemented by foreign law, judicial rulings, and regulatory authorities of the jurisdictions chosen to be compared. Scholarly articles, monographs, reports by think tanks, white papers and policy papers are all considered secondary sources. The whole reference is done in OSCOLA (Oxford University Standard for the Citation of Legal Authorities) style.

1.8 Chapter Overview

The dissertation continues in the following way. Chapter II gives the conceptual and technical background of the legal discussion that follows, exploring the structure of the metaverse, and the taxonomy of its assets. Chapter III will conduct a doctrinal examination of whether and how metaverse assets can be taken into the current Indian property law. Chapter IV discusses the intellectual property aspects of metaverse property, especially focusing on copyright, trademark, and the problem of AI-created content and NFTs. Chapter V examines the contractual system defining the relationship between operators of the platform and users, paying attention to the enforceability and fairness of Terms of Service agreement. The sixth chapter deals with the securities law and financial law of virtual assets. Chapter VII focuses on immersive virtual environments and data protection and privacy. Chapter VIII considers consumer protection frameworks. Chapter IX provides the comparative analysis of foreign regulatory approaches. Chapter X synthesises the foregoing analysis into a proposed regulatory framework for India. Chapter XI concludes.

1.9 Literature Review

The literature on the legal nature of metaverse assets is reflective of the concern for the lack of legal clarity and regulation of digital assets such as NFTs, virtual real estate, avatars and in-game items. Many scholars now recognise that these assets have considerable economic value in the real world and are traded within virtual economies, yet their regulation is largely limited to platform-specific rules and policies. This approach to private contractual governan (Placeholder1)ce results in a fragmented legal landscape where users' rights are unclear and often subservient to the rules set by platform operators. Much research highlights the shortcomings of existing legal frameworks (property law, contract law, and intellectual property law) in dealing with the metaverse. The virtual environments' decentralised and transnational nature complicates traditional concepts of ownership, as users do not gain absolute property rights but conditional rights. This has resulted in uncertainty around

ownership and property rights. In addition, intellectual property rights in the metaverse are weak, as virtual assets can be easily copied, altered or misused, potentially without effective enforcement. The use of smart contracts, although technologically advanced, also raises some concerns about their enforceability, as there is no legal recognition or enforcement of smart contracts in legislation. Jurisdiction also raises legal questions in that metaverse transactions often involve individuals from different jurisdictions, making it challenging to determine the governing law and forum for dispute settlement. Academics highlight that this jurisdictional uncertainty affects legal certainty and has implications for users and regulators alike. Moreover, the pseudonymity or anonymity of users in virtual worlds adds to the challenges of accountability and enforcement.

In India, these challenges are compounded by the lack of specific laws or court decisions that deal with metaverse assets. The existing laws such as the Information Technology Act, 2000 and the Indian Contract Act, 1872, have limited and indirect relevance with major regulatory loopholes. The literature points out that India's existing laws are ill-equipped to address emerging concerns, such as digital property rights, virtual transactions, and decentralised governance in the metaverse. Further, issues of data privacy, cybersecurity, financial regulation and taxation further complicate the matter, especially with the use of cryptocurrencies and other digital payment platforms in the metaverse.

In summary, the literature highlights the need for a well-defined and integrated regulatory framework, especially in India, to effectively deal with the complex issues associated with metaverse assets. The literature calls for recognition of such assets, clarification of ownership rights, effective intellectual property protection and clear dispute resolution frameworks. Further, there is a clear focus on crafting regulatory policies that foster innovation while safeguarding user interests, and on harmonising Indian laws with global standards to maintain the flourishing of virtual economies.

CHAPTER II: UNDERSTANDING THE METAVERSE — CONCEPTUAL AND TECHNICAL FOUNDATIONS

2.1 Defining the Metaverse

The term 'metaverse' resists precise definition, a fact that itself has legal significance, since legislative and regulatory instruments require definitional anchors. Stephenson's original conception was literary and visionary rather than technically specified. Contemporary usage encompasses a wide spectrum of technologies and experiences, from the fully immersive virtual reality environments of Meta's Horizon Worlds to the semi-immersive social gaming platforms of Roblox and Fortnite, from blockchain-anchored virtual land registries such as The Sandbox and Decentraland to augmented reality overlays upon the physical world. What unifies these diverse manifestations?

The most analytically useful definition, for legal purposes, comes from Matthew Ball, who characterises the metaverse as 'a massively scaled and interoperable network of real-time rendered three-dimensional virtual worlds which can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments.' This definition identifies seven structurally relevant features: scale, interoperability, real-time rendering, simultaneity of experience, persistence, individual sense of presence, and continuity of data. Each of these features has potential legal implications.

Persistence is perhaps the most legally significant feature. A persistent virtual world continues to exist and evolve whether or not any particular user is logged in. Assets within such a world therefore have an existence independent of the user's session — a characteristic that strongly suggests, though does not conclusively establish, a form of property-like status. The interoperability where it is present poses questions concerning the portability of property rights between platforms. Data continuity implies that identity assets (avatars) and ownership history (on-chain token registries) can be legally recognised even without an individual platform.

2.2 Technical Architecture of Metaverse Platforms

The two main models of architecture on which metaverse platforms are constructed are based on one of the two major architectural paradigms, and the difference has serious legal implications. The first one is the platform governed or centralised model, such as Roblox, Fortnite and the Horizon world of Meta. In such platforms, the operators of the platform manage the servers, the economic policies, the asset registry and the participation terms. Assets are records in a database that is upheld and managed by a corporate body. The Terms of Service

that govern the operation of the platform give the user no right to the assets, and usually give the operator the right to modify, suspend or revoke access without any liability.

The second one is the decentralised or blockchain-based model, such as The Sandbox and Decentraland. Within such settings, core assets, which include most commonly virtual land parcels, are stored in a public blockchain, usually Ethereum, as non-fungible tokens. The blockchain record is not managed by one individual and is at least theoretically unchangeable and movable. The architectural feature has important implications to property rights analysis: a user who has a blockchain-recorded NFT of a virtual land parcel enjoys a stronger claim to any sense of ownership in the legal sense than a user that has a balance of in-game currency in a centralised platform database.

These two poles have a spectrum of hybrid architectures in between. There are those platforms that store some high-valued assets using blockchain but retain centralised control over others. Others rely on smart contracts, self-executing code that automatically executes the terms of an agreement in case some predetermined conditions are fulfilled, to automate some operations without operator intervention. The legal status of smart contract-based obligations, and whether they satisfy the requirements of valid contracts under Indian law, is considered in Chapter V.

2.3 Taxonomy of Metaverse Assets

For purposes of legal analysis, metaverse assets can be grouped into five broad categories, though it should be emphasised that the categories overlap, and a single asset may simultaneously fall into more than one.

The first category is virtual real estate — parcels of digital land within a platform environment. Virtual land parcels are perhaps the closest metaverse analog to familiar real property, and they are subject to formal buying, selling, leasing, and development. The Decentraland platform divides its virtual world into 90,601 individual land parcels ('LAND'), each represented by a unique NFT on the Ethereum blockchain. In January 2022, a parcel in the Decentraland 'Fashion Street' district sold for approximately USD 2.43 million, attracting widespread media attention and investor interest. This transaction, and thousands like it, raise the fundamental question of whether such 'land' can constitute property recognised by Indian law.

The second type of category is avatar and identity assets - the visual and operational expression of user identity in virtual worlds. They consist of avatar bodies, wearable (clothing, accessories, equipment) and related cosmetic customisations. Individual cosmetic items may sell on the secondary markets of large gaming economies like Fortnite and Counter-Strike,

though they have no in-game functional benefit, in the hundreds or even thousands of US dollars. The marketability of such objects is pushed by their scarcity, desirability, and social signalling - aspects that economists are accustomed to, but would be harder to incorporate into a legal system based on use-value.

The third type of category is in-world currencies and fungible digital tokens. The vast majority of metaverse platforms have their internal economies, usually in proprietary currencies (Robux on Roblox, V-Bucks on Fortnite, MANA on Decentraland) which can be used to buy goods and services in the platform. A few of these currencies can be exchanged with real-world fiat currency; others cannot, or can only under certain circumstances. One of the most disputed aspects of the law of digital assets is the legal nature of such currencies: whether they should be treated as currency, as securities, or otherwise.

The fourth type of category is digital collectibles and artworks based on NFTs. Cryptographic tokens, usually stored on a blockchain, that indicate ownership of a unique digital object - an artwork, a collectible, a piece of music or (as discussed above) a parcel of virtual land - are known as non-fungible tokens. In 2021, the NFT market saw the highest annual trading volumes of about USD 25 billion, but has since been highly volatile. Special issues are presented by NFTs in copyright law, contract law, and consumer protection that are discussed in the following chapters.

The fifth type of category is user-generated content (UGC) - intellectual content generated by users on the platform environment. An example is Roblox, which allows its 70 million or so daily active users to create and monetise experiences built on its platform, and which the company then shares revenues with creators. Chapter IV addresses the intellectual property of such UGC who is the owner of such UGC, what rights the platform has over it and what protections creators retain.

2.4 Economic Significance and Market Dynamics

There are a number of characteristics of the metaverse economy that differentiate it to traditional markets and are regulator-ally relevant. First, it is easily cross-jurisdictional: a user in Mumbai can buy a virtual piece of land on a platform registered in the Cayman Islands and sold to a user in Seoul, with the cryptocurrency the nodes of which are distributed around the world, through a smart contract that runs on a blockchain maintained by validators in a dozen countries. This trans-jurisdictional character creates acute problems of regulatory competence and choice-of-law.

Second, is an excessive level of information asymmetry which characterises the metaverse economy. The operators of the platform can see in detail the asset registries,

transaction history and user behaviour. The information that the platform decides to display using its interface is generally the only information that users can access. This asymmetry, which measures up more than even the asymmetries of conventional consumer markets, has far reaching consequences both in the law of contract, consumer protection and financial regulation.

Third, the metaverse economy is very concentrated: a few platform operators can regulate the space where tens or hundreds of millions of users are engaged. This market power allows operators to charge Terms of Service where in other markets such Terms of Service would be subject to the scrutiny of the competition law. The Epic Games vs. Apple case in the United States offered an insight into how antitrust regulators could possibly apply their attention to market power in digital platforms, but the court reviewed it in terms of app distribution and not the market of virtual goods in particular.

2.5 The Indian Metaverse Landscape

India presents a unique and distinctive national context . The country's gaming market, valued at approximately USD 2.8 billion in 2022, is one of the fastest-growing in the world. Approximately 500 million Indians played mobile games in 2023, and the number of active blockchain and cryptocurrency users, while difficult to estimate with precision, is widely regarded as among the world's highest in absolute terms. The Telecom Regulatory Authority of India launched a consultation process on metaverse regulation in 2023, signalling government awareness of the issue, but at the time of writing no regulatory framework had emerged from that process.

The Government of India has not been entirely passive. The Finance Act 2022 introduced a flat 30 per cent tax on income from 'virtual digital assets' (VDAs), defined broadly to include cryptocurrencies and NFTs. The PMLA was amended in March 2023 to bring Virtual Asset Service Providers (VASPs) within its scope. MeitY has published discussion papers on blockchain technology and its potential applications. SEBI has issued consultation papers on digital asset regulation. But none of these initiatives has produced a coherent framework that addresses the full range of legal questions raised by metaverse assets, and their collective effect is to create a patchwork of sectoral regulation that addresses fragments of the problem while leaving the core untouched.

2.6 Legal Challenges: An Overview

The legal challenges posed by metaverse assets can be organised under five heads, each of which is the subject of detailed analysis in subsequent chapters. The first is the classification challenge: existing legal categories were designed for a world of physical things and clearly

bounded legal relationships, and metaverse assets do not fit neatly into any of them. The second- the jurisdiction challenge: trans-national nature of metaverse platforms complicates the determination of jurisdictions to which a law applies, on which courts have jurisdiction, and the enforcement of judgments, once received. The third one is the evidence challenge: in order to establish that there is an asset in a metaverse, or that the asset has been damaged, one will need technical expertise that is not available to courts and lawyers in most jurisdictions of India. The fourth is the enforcement problem: even in a case of the legal right in place, it is difficult to enforce it against platforms that have been incorporated in a foreign country, or against an anonymous or pseudonymous actor. The fifth is the innovation challenge: regulation inevitably creates compliance costs and may impede the development of nascent technologies. Any regulatory framework must be calibrated to address the genuine harms that arise from the unregulated metaverse without unnecessarily hampering a sector with significant economic potential for India.

CHAPTER III: METAVERSE ASSETS AS PROPERTY — DOCTRINAL ANALYSIS

3.1 The Concept of Property in Indian Law

Property, in the legal sense, is not a thing but a bundle of rights in relation to things: the right to use, the right to exclude others, the right to transfer, and the right to seek legal protection upon interference. The constitutional right to property in India, which was a fundamental right under Article 19(1)(f) until its deletion by the Forty-Fourth Amendment in 1978, continues to exist as a constitutional right under Article 300A, which provides that no person shall be deprived of his property save by authority of law. This is a constitutional clause backed by the Transfer of Property Act 1882, the Indian Contract Act 1872 and the Code of Civil Procedure, is the skeletal outline of Indian property law.

The Transfer of Property Act 1882 defines 'property' to include things of every description, both moveable and immoveable, in which property rights may be held. Indian courts have historically interpreted this broadly, extending property rights to shares, trademarks, goodwill, and other intangibles. The question is whether this broad interpretation can be extended further to encompass metaverse assets.

3.2 The Intangibility Problem

The central challenge in classifying metaverse assets as property is their radical intangibility. Property law, both in India and in the common law tradition from which much of Indian private law descends, developed in relation to physical objects that can be possessed, transferred by delivery, and protected against interference by trespass or conversion. Even the extension of property concepts to intangibles — intellectual property rights, shares in companies, debts — preserved a degree of connection to the physical world: a share certificate, a registered trademark, a deed of assignment.

Even that physicality is lacking in metavarses. A piece of virtual land is represented in a database or a cryptographic representation on a distributed registry. An avatar skin is a collection of polygonal coordinates and texture maps on a server. An in-game currency balance exists as a numerical entry in a proprietary account system. None of these can be physically possessed. None can be transferred by delivery in the traditional sense. And while some can be protected against interference — the blockchain provides a form of technical protection for NFT ownership that is, in some respects, more robust than legal protection — others are entirely dependent upon the goodwill of the platform operator for their continued existence.

The English common law has recently grappled directly with this question. In AA v Persons Unknown, the Commercial Court held that Bitcoin constituted 'property' for purposes

of granting a proprietary injunction, concluding that the existing categories of personal property — 'things in possession' and 'things in action' — did not exhaustively describe the types of thing capable of attracting property rights, and that Bitcoin satisfied the four criteria for property identified in National Provincial Bank v Ainsworth: it was definable, identifiable by third parties, capable in its nature of assumption by third parties, and having some degree of permanence. Although this analysis does not bind Indian courts, it is very convincing, considering the common law heritage. This has now been adopted by the United Kingdom as a legislative approach. Digital assets (such as cryptocurrencies, NFTs and some other digital objects) are identified as the third type of personal property by the Property (Digital Assets etc) Act 2025, unlike things in possession and things in action. This is a groundbreaking piece of legislation, based on a recommendation of the Law Commission, and years of judicial evolution, that constitutes the most modern effort to address the classification problem at the national level.

Its potential relevance to Indian reform is considered in Chapter X.

3.3 Indian Jurisprudence on Digital Assets

Indian courts have not yet directly addressed the property status of metaverse assets. The closest Indian authority is the Supreme Court's decision in Internet and Mobile Association of India v Reserve Bank of India, which struck down the Reserve Bank of India's circular directing banks not to deal with entities engaged in cryptocurrency trading. While the court did not directly characterise cryptocurrency as property, its reasoning — that cryptocurrency has exchangeable value and that its holders have cognisable economic interests — implicitly acknowledges a property-like dimension. More significantly, the court's application of the proportionality doctrine to the RBI's restriction suggests that property-like protections were engaged.

The Finance Act 2022 introduced the concept of 'virtual digital assets' (VDAs) into the Income Tax Act 1961 as a defined taxable class. While the Finance Act definition — which encompasses any information, code, number, or token (not being Indian currency or foreign currency) generated through cryptographic means and providing a digital representation of value — does not resolve the property question (tax classification is not the same as property classification), it represents a legislative acknowledgment that VDAs are cognisable economic objects. The Supreme Court in K S Puttaswamy noted, albeit in a different context, that economic interests that are closely tied to personal autonomy and dignity attract constitutional protection.

The Companies Act 2013 defines 'property' to include both moveable and immoveable

property, tangible and intangible. If a company holds metaverse assets on its balance sheet — a practice not uncommon among gaming companies and technology firms — those assets would, under this expansive definition, constitute property of the company for purposes of the Act. The Tata Consultancy Services litigation before the Supreme Court, while principally concerned with corporate governance, affirmed that intangible assets held by corporations attract the same protective principles as tangible ones.

3.4 Ownership Versus Licence: The Fundamental Distinction

Perhaps the most practically significant doctrinal question is whether a metaverse platform user who 'purchases' an asset thereby acquires property rights in that asset, or merely acquires a contractual licence to use the asset subject to the platform's Terms of Service. This distinction is not merely academic: if the user acquires a licence rather than property rights, then the platform operator may, by amending its Terms of Service, extinguish the user's entitlement without incurring liability in conversion or trespass to goods. If, on the other hand, the user acquires a property right, then the operator's ability to extinguish that right is constrained by the general law of property, including the principle that a licensor cannot derogate from their grant.

In the centralised platform model, the Terms of Service almost invariably provide that users do not own any in-game assets but merely have a limited, revocable licence to use them. A representative provision from the Roblox Terms of Service states that users 'do not own the Virtual Currency or Virtual Items'. Similar provisions appear in the Terms of Service of every major gaming platform. The legal effect of such provisions under Indian law depends on whether they constitute valid contractual exclusions — a question that turns on the application of the Indian Contract Act 1872, the Consumer Protection Act 2019, and the doctrine of unconscionability.

In the decentralised or blockchain-based model, the position is more complex. Where an asset is represented by an NFT whose ownership record is maintained on a public blockchain, the technical architecture suggests a more robust form of ownership: the token cannot be deleted or confiscated by the platform operator without the cooperation of the token holder (or a successful attack on the blockchain). In Bragg v Linden Research Inc, the first major US case to address virtual property rights, the court did not resolve the ownership-versus-licence question but found that the platform operator's unilateral confiscation of a user's virtual land raised sufficiently serious issues of fact and law to preclude summary judgment.

The subsequent case of Evans v Linden Research Inc involved a class action arising from the same Second Life platform. The court in that case considered whether the platform's

Terms of Service, which purported to vest ownership of all in-game assets exclusively in the operator, were enforceable as against users who had purchased assets for real money. The court accepted, for pleading purposes, the argument that the relationship between users and the platform might give rise to implied property rights inconsistent with the Terms of Service.

3.5 Virtual Land as Immoveable Property?

Virtual land presents a particularly interesting doctrinal puzzle. The Transfer of Property Act 1882 defines immoveable property to include land, benefits arising out of land, and things attached to the earth or permanently fastened to anything attached to the earth. This definition is obviously designed for physical land, and a virtual land parcel satisfies none of its literal requirements: it is not land, it does not arise out of land, and it is not attached to anything earthly. Virtual land, in the technical sense, is merely a set of coordinates within a digital coordinate system maintained by a platform.

Yet the economic and social functions performed by virtual land closely mirror those performed by physical land. Virtual land is a scarce resource (in platforms with fixed supply, as in Decentraland), a site of social and commercial activity, a subject of investment and development, and a signifier of status. The functional argument for treating virtual land as property is therefore compelling, even if the textual argument based on the Transfer of Property Act is not. This suggests that, in the Indian context, the property status of virtual land may need to be established either through judicial development of the common law concept of property, which Indian courts have the authority to undertake under section 5 of the Civil Procedure Code, or through legislative intervention.

3.6 Digital Inheritance and Succession

The property status of metaverse assets also has important implications for succession law. The Succession Act 1925, which governs the testamentary and intestate transmission of property in India, applies to 'property' broadly defined. If metaverse assets constitute property, they should in principle be transmissible on death to the testator's beneficiaries or, in the absence of a will, to statutory heirs. The practical obstacles to such transmission are, however, formidable: the beneficiary must have access credentials to the relevant platform accounts, the platform must be willing to recognise the transfer, and (in the centralised platform model) the platform's Terms of Service may restrict or prohibit account transfer.

These issues were first dramatised in In re Ellsworth, a Michigan probate case in 2005 in which the family of a deceased US Marine sought access to his Yahoo! email account. The court granted access, but the case illustrated that digital assets — including platform accounts and the assets associated with them — did not fit comfortably within existing succession

frameworks. The United States subsequently adopted the Revised Uniform Fiduciary Access to Digital Assets Act 2015, which enables personal representatives and trustees to access digital assets belonging to a decedent. The United Kingdom is also advancing draft legislation on the point. India has no equivalent framework. The absence of such a framework means that the estates of deceased metaverse investors may be unable to realise, or even to access, assets of significant value.

3.7 Conversion and Trespass to Virtual Goods

Even assuming that metaverse assets constitute property in Indian law, the available remedies for their wrongful taking or destruction are uncertain. The tort of conversion — the wrongful dealing with another person's goods so as to deny their right to possession — has traditionally required a physical act of taking or detention. Whether a purely digital act, such as hacking a blockchain wallet or misappropriating in-game currency, can constitute conversion under Indian law is an open question. The common law countries are beginning to resolve this question in favour of extending conversion to digital assets, but Indian courts have not yet had occasion to address it directly.

In Ion Science Ltd v Persons Unknown, the English Commercial Court extended proprietary remedies to stolen Bitcoin, treating the crypto-assets as property capable of being traced and recovered. The court's reasoning — that the wrongful transfer of a blockchain-recorded asset to an unauthorised address constitutes a form of conversion — offers a doctrinal model for Indian courts facing analogous cases. The Enforcement Directorate's use of attachment proceedings under the Prevention of Money Laundering Act 2002 in cryptocurrency cases demonstrates that Indian law-enforcement agencies are already treating virtual assets as sufficiently property-like to be subject to seizure.

3.8 Comparative Property Analysis: Key Jurisdictions

The New Zealand High Court, in Ruscoe v Cryptopia Ltd, held that cryptocurrency assets held on exchange were personal property subject to a trust in favour of their beneficial owners. The Singapore International Commercial Court reached a similar conclusion in B2C2 Ltd v Quoine Pte Ltd, characterising cryptocurrency as property susceptible to legal analysis in terms of ownership and transfer. The English courts have built upon these foundations to produce an increasingly sophisticated jurisprudence of digital property rights, culminating in the Property (Digital Assets etc) Act 2025. India, which shares the common law tradition with all of these jurisdictions, has the doctrinal resources to develop an equivalent jurisprudence, but has not yet done so.

CHAPTER IV: INTELLECTUAL PROPERTY RIGHTS IN THE METAVERSE

4.1 Introduction to Metaverse IP

The metaverse is inherently a very creative space this is a place where architects build virtual architecture and buildings, artists develop digital sculptures and art, musicians develop immersive soundscapes and music and programmers develop interactive worlds for interactive experiences. All of these activities generate intellectual creations that may attract intellectual property protection. The metaverse also raises distinctive challenges to existing intellectual property frameworks: the ease of copying and distributing digital content, the challenges of authorship attribution in AI-assisted creation, the collision of platform operators' proprietary rights with users' creative claims, and the trans-national character of both creation and infringement.

4.2 Copyright in Metaverse Creations

Copyright in India is governed principally by the Copyright Act 1957, which protects 'original literary, dramatic, musical and artistic works; cinematograph films; and sound recordings.' The standard of originality applied by Indian courts, following the Supreme Court's decision in Eastern Book Company v DB Modak, requires the exercise of sufficient intellectual skill and judgment, rather than mere labour or sweat-of-the-brow. This standard, which is broadly comparable to the US standard articulated in Feist Publications Inc v Rural Telephone Service Co, should in principle be capable of accommodating most user-generated content produced within metaverse environments.

Virtual buildings designed and constructed within a metaverse platform would likely qualify as 'artistic works' under the Copyright Act 1957. Custom avatar designs would qualify as artistic works, and the code underlying interactive metaverse experiences might qualify as both a literary work (the source code) and, potentially, a cinematograph film (the audio-visual output). Musical compositions and sound recordings created for metaverse environments would be protected as musical works and sound recordings respectively.

The practical complication is platform Terms of Service. Most major metaverse platforms include provisions that grant the operator a broad, perpetual, worldwide licence to use, reproduce, and commercialise user-generated content. Roblox's Terms of Service, for instance, grant Roblox an irrevocable, non-exclusive, worldwide, royalty-free licence to all user-created content. Whether such provisions are valid and enforceable under Indian copyright law — which provides, in section 17, that the author is the first owner of copyright, subject only to limited exceptions — is doubtful. The Indian courts have not yet considered the

question directly, but the principle that copyright ownership can be transferred only by written assignment, expressly provided in section 19, suggests that a ToS licence may be insufficient to vest ownership (as distinct from a licence) in the platform operator.

4.3 Authorship, AI, and the Copyright Frontier

The metaverse is increasingly populated with AI-generated content: AI-designed environments, AI-composed music, AI-generated avatars. The legal status of such content — whether it attracts copyright protection and, if so, who holds the copyright — is among the most contested questions in contemporary intellectual property law.

The US Court of Appeals for the Ninth Circuit held in Naruto v Slater that non-human entities cannot hold copyright, because copyright legislation confers rights exclusively on human authors. A similar judgment was made by the US District Court of the District of Columbia in Thaler v Perlmutter, where it was determined that AI-generated works cannot receive copyright protection when they are not authored by humans. The Copyright Act 1957 also defines author in a similar manner; it assumes that a work must be created by a person: the author of a work is a person who creates it. The Act is silent on whether an AI system (or the human operating it or training it) meets this definition.

This lacuna has significant practical implications for the metaverse. If AI-generated content does not attract copyright protection, it falls into the public domain, meaning that anyone may copy and use it without restriction. This could undermine the business models of platform operators who invest in AI content generation, and it could result in the wholesale copying of AI-generated metaverse environments. A legislative amendment to the Copyright Act to address AI authorship — whether by creating a new category of 'computer-generated works' with shorter protection terms (as some jurisdictions have done) or by some other mechanism — is urgently needed.

4.4 NFTs, Copyright, and the Ownership Fallacy

The NFT market has given rise to widespread misunderstanding about the relationship between ownership of a token and ownership of the underlying intellectual property. When a user purchases an NFT representing a digital artwork, they acquire ownership of the token — a cryptographic entry on a blockchain — but they do not, absent an express assignment, acquire the copyright in the underlying artwork. The copyright remains with the creator, who retains the right to reproduce, distribute, and create derivative works.

This misunderstanding has generated litigation. In Yuga Labs Inc v Ripps, the creator of the Bored Ape Yacht Club NFT collection sued an artist who had minted a new NFT collection using identical images, arguing trademark infringement and breach of contract. The

plaintiff won the case, however, the case demonstrated how tricky IP rights in NFT ecosystems can be since the same digital image can be the focus of a copyright, a trademark, a smart-contract-based licence, and various competing claims to ownership.

The Hermes v Rothschild case of the MetaBirkins is, perhaps, the most significant NFT-related IP case so far. The artist Mason Rothschild was sued by Hermes International, the plaintiff, on grounds of creating and selling NFTs of fur-covered versions of the legendary Birkin handbag. The court ruled in favour of Hermes and said that the First Amendment did not offer a defence to claims of trademark infringement where the artistic expression lacked a sufficient relationship to the trademarked item, and thus deserved protection. The case has great ramifications to the metaverse where virtual goods are regularly reproduced or imitate real-world branded items.

4.5 Trademark Law in the Metaverse

The Trade Marks Act 1999 protects registered marks against use in relation to goods or services that is likely to cause confusion. The application of this framework to metaverse contexts raises several specific questions. First, do virtual goods and real-world goods fall within the same class of goods for trademark purposes? If a virtual sneaker sold in a metaverse is classified in the same class as physical footwear, then existing brand registrations would extend to virtual goods. If not, brand owners would need to seek separate registrations for virtual goods — a significant commercial burden. The Indian Trade Marks Registry has not yet published guidance on this point, though the US Patent and Trademark Office has accepted trademark applications explicitly covering virtual goods following the Hermes decision.

Second, does the use of a trademark in a metaverse environment constitute 'use' of the mark for purposes of infringement? Use of a trademark in the digital context has been addressed by Indian courts in the context of keyword advertising and domain names. In Tata Sons Ltd v Greenpeace International, the Delhi High Court applied the infringement test to online use of the Tata mark, affirming that trademark protection extends to digital environments. The extension of this principle to immersive virtual environments — where a virtual shopfront might display a brand's logo in a three-dimensional, interactive setting — seems doctrinally straightforward, though the specifics of metaverse trademark use may raise novel issues.

4.6 Platform IP and the User's Rights

The relationship between platform intellectual property and user rights creates a structural tension at the heart of metaverse IP law. The platform environment is generally asserted by the platform operators to have broad intellectual property rights: the visual design, the gameplay rules, the economic rules, the virtual architecture. These assertions are made in

Terms of Service, end-user licence agreements and copyright registrations. Users, in the meantime, post content into these spaces that can stand on its own to have copyright protection.

The issue of intellectual property of the platform and that of the user is not purely academic. When a user invests hundreds of hours creating a rich virtual world inside a metaverse platform, and the platform then alters its Terms of Service to assert it owns all the user-created work, the user has a strong moral right to the work they created. Whether that moral claim translates into a legal entitlement under the Copyright Act 1957 depends on the principles of implied licence, derivative works, and the limits of contractual waiver of statutory rights - all questions that Indian courts will need to address as the metaverse economy matures.

CHAPTER V: CONTRACT LAW AND TERMS OF SERVICE IN VIRTUAL ENVIRONMENTS

5.1 The Contractual Governance of Metaverse Participation

The principal legal document governing the relationship between a metaverse platform and its users is the Terms of Service (ToS) agreement — a contract, typically presented as a clickable 'I Agree' button, that purports to define the entirety of the rights and obligations between the parties. These agreements are typically lengthy (Decentraland's Terms of Service runs to approximately 8,000 words), legally dense, frequently updated, and presented in conditions that make meaningful negotiation impossible. Their enforceability, and the extent to which they can legitimately exclude or limit rights that users might otherwise have, is a fundamental question of Indian contract law.

5.2 Formation of Contract: Click-Wrap and Browse-Wrap Agreements

The validity of click-wrap contracts — in which the user indicates assent by clicking a button — has been accepted by courts in the United States since at least ProCD Inc v Zeidenberg. Browse-wrap agreements — in which the user is taken to have assented merely by using the website or platform — are more controversial; in Register.com Inc v Verio Inc, the Second Circuit upheld a browse-wrap agreement, but only because the party bound had actual knowledge of the terms.

Under Indian law, the Indian Contract Act 1872 requires offer, acceptance, and consideration for a valid contract. A click-wrap agreement satisfies these requirements: the platform's ToS constitutes an offer, the user's click constitutes acceptance, and the mutual exchange of the right to use the platform and the user's agreement to the terms constitutes consideration. The more difficult question is whether the terms are valid as a matter of public policy and consumer protection.

Section 23 of the Indian Contract Act 1872 provides that a consideration or object is unlawful if it is opposed to public policy. A ToS provision that purports to waive the user's rights to legal recourse, or to permit the operator to confiscate validly purchased assets without compensation, may fall foul of this provision. More directly, the Consumer Protection Act 2019 prohibits 'unfair contract terms' in contracts between traders and consumers, and defines an unfair term as one that causes significant imbalance in the parties' rights and obligations to the detriment of the consumer.

5.3 Unconscionability and Unfair Contract Terms

The doctrine of unconscionability, while not as fully developed in Indian law as in some

common law jurisdictions, has been recognised by Indian courts as a basis for setting aside agreements that are oppressively one-sided. The Supreme Court in Central Inland Water Transport Corporation v Brojo Nath Ganguly held that courts may strike down terms that are unfair and unreasonable where one party had no real choice but to assent. This principle, applied to metaverse ToS agreements — where the user has the stark choice between accepting all terms or not participating at all — would provide a basis for challenging some of the more extreme provisions.

The specific provisions most likely to attract scrutiny are: unilateral modification clauses (which purport to allow the operator to change the terms without notice); broad exculpatory clauses (which purport to exclude all liability for the loss or confiscation of user assets); mandatory arbitration clauses (which require users to resolve disputes through arbitration, often in a foreign jurisdiction); and assignment restrictions (which prohibit users from transferring their accounts or assets). Each of these provisions has been challenged in foreign courts with varying results.

5.4 Virtual Property Disputes: Key Cases

Bragg v Linden Research Inc remains the most significant judicial treatment of virtual property disputes. Marc Bragg, a Second Life user, purchased virtual land at a price that the operator, Linden Research, considered to have been obtained by exploiting an auction exploit. Linden Research confiscated the land and terminated Bragg's account. Bragg sued, alleging breach of contract, conversion, and unjust enrichment. The court declined to dismiss the claims, holding that Linden Research's promotional materials — which represented that users 'owned' their virtual land — had created a reasonable expectation of ownership that was inconsistent with the ToS's reservation of unilateral confiscation rights. The court also found the mandatory arbitration clause, which required arbitration in San Francisco, potentially unconscionable as applied to a consumer plaintiff.

Evans v Linden Research Inc was a class action arising from the same platform. The plaintiff claimed that the ToS terms by Linden Research, which stated that the company could exchange users virtual currency to real money at an exchange rate determined by Linden Research, were an illegal taking of property. The case was however resolved, although the court had already allowed a few of the claims to go forward to show that the property-like nature of virtual currency balances had been argued out to be enough to overcome a motion to dismiss.

In the gaming context, Mayers v Activision Blizzard concerned claims arising from the devaluation of in-game currency through in-game inflation. The court declined jurisdiction on

certain claims, but the case illustrates the extent to which the economic interests of users in virtual currency can give rise to tortious claims analogous to those available in respect of real property.

5.5 Smart Contracts: Legal Status Under Indian Law

Smart contracts are self-executing computer programs that automatically perform contractual obligations when predefined conditions are met. They are stored on and executed by blockchain networks, and they are the primary mechanism by which transactions in decentralised metaverse assets are conducted. The legal status of smart contracts under Indian law — whether they constitute valid contracts, what happens when they malfunction, and how disputes arising from them are resolved — is a question of considerable practical importance.

A smart contract satisfies the basic requirements of the Indian Contract Act 1872 if it embodies a valid offer and acceptance, is supported by consideration, and does not have an unlawful purpose. The offer and acceptance in a smart contract are typically represented by the code itself: the deployer's publication of the contract code constitutes an offer, and the counterparty's interaction with it (by sending cryptocurrency or other digital assets to the contract address) constitutes acceptance. Consideration is present in the exchange of assets. The specific difficulties arise in relation to consensus ad idem (agreement on the same thing) — since the parties may not have understood the code's effect — and in relation to vitiation by mistake or fraud.

The most significant legal issue with smart contracts in the metaverse context is the absence of a mechanism for judicial modification or rescission. The technical nature of smart contracts is that once deployed, the code cannot be changed: in case the code has a bug, or the situation evolves in a manner that makes its performance unfair, the legal system has no ready means of intervention, as the code will keep running, despite any court order. This poses some basic questions about the connection between legal norms and technical systems, which are not yet worked out in Indian law, or in fact, in any jurisdiction.

The Singapore International Commercial Court case B2C2 Ltd v Quoine Pte Ltd, covered a different form of this issue: the trading platform had unwounded transactions made by a smart trading bot, based on the argument that the bot had taken the advantage of a technical bug. The court ruled that the reversal was a breach of contract, as the smart contracts on the trades were binding and valid. The case demonstrates how judiciary is starting to accept smart contract execution as a legally enforceable contract, yet it also demonstrates the conflict between the technical irreversibility of blockchain execution and the legal requirement of a remedy in instances of unfairness.

5.6 Dispute Resolution: Forum Selection and Arbitration

The Terms of Service of the Metaverse platform always include forum selection clauses, and in the majority of cases, such as obligatory arbitration clauses. These provisions usually name a particular jurisdiction, typically the home jurisdiction of the platform in the United States, as the sole venue of dispute resolution, and mandate users to forbear their right to join class actions. Such clauses can be enforced against Indian users, which is questionable according to the Arbitration and Conciliation Act 1996 and Consumer Protection Act 2019.

The Consumer Protection Act 2019 offers that a dispute between a consumer and service provider can be referred to a consumer forum and it is argued that the right to access a consumer forum is a statutory right that cannot be contractually waived. With such argument dominant, the required arbitration clauses in metaverse ToS would not be applicable against consumers in India, and the Indian consumers would be entitled to local litigation over which the platform operators would have tried to avert.

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CHAPTER VI: SECURITIES REGULATION AND VIRTUAL ASSET GOVERNANCE

6.1 The Securities Question

The issue of whether the assets of the metaverse (and virtual digital assets generally) are subject to the financial regulation as a security is one of the most debated and commercially important in the digital asset realm. If metaverse assets are securities, their issuance and trading must comply with the Securities and Exchange Board of India Act 1992, and any platform facilitating their trade must be registered as a securities exchange or broker. If they are not securities, a different and somewhat less demanding regulatory framework applies.

The US Supreme Court's decision in SEC v WJ Howey Co established the test that has become the global benchmark for distinguishing securities from other investments. Under the Howey test, an instrument is a security if it involves: an investment of money, in a common enterprise, with an expectation of profits, derived primarily from the efforts of others. The application of this test to metaverse assets yields varying results depending on the specific asset in question.

6.2 Application of the Howey Test to Metaverse Assets

Virtual currencies — such as MANA (Decentraland) or SAND (The Sandbox) — are among the more plausible candidates for securities classification. Users who purchase these tokens often do so with an expectation of price appreciation, and the value of the tokens is substantially dependent on the efforts of the development teams behind the respective platforms. If the Howey test is applied, these tokens may qualify as securities, in which case their sale to the public would be subject to mandatory registration and disclosure requirements.

The question of securities has been put into the limelight with the SEC v Ripple Labs litigation. The SEC alleged that XRP, the cryptocurrency associated with the Ripple payment network, was an unregistered security. The district court issued a split ruling, holding that sales to institutional investors were securities transactions but that programmatic sales on digital asset exchanges were not. The case has not been finally resolved, but it has illustrated the limitations of applying a 1946-era test to twenty-first-century digital assets.

NFTs, by contrast, are generally less likely to constitute securities, at least in their conventional form. An NFT representing a unique digital artwork or a parcel of virtual land is more analogous to a collectible or a piece of real estate than to a share in a company. However, certain NFT structures — 'fractional NFTs' that give holders an economic interest in the revenues generated by an NFT-backed asset, or 'utility NFTs' that grant access to income-

generating services — come much closer to the securities definition. The distinction between a 'utility token' (which provides access to a service) and a 'security token' (which represents an investment in an enterprise) is the subject of intense regulatory debate.

6.3 The Indian Regulatory Position on VDAs

India's approach to the regulation of virtual digital assets has evolved rapidly but remains incomplete. The Finance Act 2022 introduced a 30 per cent tax on VDA income, essentially treating VDAs as a taxable asset class without resolving the question of their legal classification. The Prevention of Money Laundering (Maintenance of Records) Rules 2005 were amended in March 2023 to include VASPs within the definition of 'reporting entities', bringing them within the PMLA 2002's anti-money laundering framework. The Reserve Bank of India has not only been very sceptical of cryptocurrency, but also casts doubts on matters of financial stability, monetary sovereignty and consumer protection. The Inter-Ministerial Committee of 2019 recommended a comprehensive ban on private cryptocurrencies, a recommendation that was not implemented following the Supreme Court's intervention in IAMAI v RBI.

SEBI has issued a consultation paper on a potential regulatory framework for digital assets, examining the possibility of treating crypto-assets as securities under the SEBI Act 1992. No final framework has emerged, but the consultation reflects an official recognition that the existing regulatory vacuum is unsustainable. The absence of a clear securities framework means that Indian retail investors who purchase metaverse assets with investment intentions — which, given the scale of the NFT and virtual land markets, appears to be common — have no regulatory protection equivalent to that available to investors in listed securities.

6.4 Anti-Money Laundering and Metaverse Finance

The metaverse's financial infrastructure — which includes cryptocurrency on-ramps, peer-to-peer trading, smart-contract-based exchanges, and cross-chain bridges — presents significant anti-money laundering (AML) risks. The Financial Action Task Force (FATF) has identified virtual assets as high-risk for money laundering and terrorist financing, and has issued guidance recommending that Virtual Asset Service Providers (VASPs) be subject to equivalent AML obligations as traditional financial institutions. India's inclusion of VASPs within the PMLA framework in 2023 represents a significant step toward FATF compliance, but the framework does not yet comprehensively address the AML risks specific to metaverse financial transactions.

The anonymity features of certain blockchain protocols — and the use of 'mixer' or 'tumbler' services that obfuscate the origins of cryptocurrency — complicate AML compliance

in metaverse contexts. A user who purchases virtual land with cryptocurrency derived from criminal proceeds may, through the mechanism of in-world transactions and out-of-platform sales, launder those proceeds into legitimate fiat currency. The Enforcement Directorate has identified such schemes in the context of cryptocurrency generally, but the specific metaverse dimension of the AML problem has not been systematically addressed.

6.5 Foreign Exchange Regulation

Cross-border metaverse transactions raise issues under the Foreign Exchange Management Act 1999 (FEMA). An Indian user who purchases a virtual land parcel from a foreign seller, using a foreign cryptocurrency, may be effecting a capital account transaction that requires regulatory approval under FEMA. The definition of 'foreign exchange' under FEMA was not designed to accommodate cryptocurrency, and the RBI has not issued authoritative guidance on the FEMA status of cross-border virtual asset transactions. This creates a situation in which ordinary Indian metaverse users may inadvertently be in violation of foreign exchange laws simply by participating in normal platform economic activity.

CHAPTER VII: DATA PROTECTION AND PRIVACY IN IMMERSIVE VIRTUAL ENVIRONMENTS

7.1 The Privacy Stakes of the Metaverse

Metaverse environments collect personal data of an intimacy and depth that dwarfs even the extensive data collection of conventional social media platforms. In addition to traditional personal data — name, email address, IP address — immersive platforms collect biometric data (facial geometry, voice patterns, iris scans), movement data (locomotion patterns, gaze direction, hand gestures), emotional response data (inferred from biometric signals), and social graph data (who the user interacts with, how frequently, and in what contexts). The aggregate of this data constitutes, in effect, a detailed physiological and psychological profile of the user.

The European Data Protection Board has described the personal data ecosystem of immersive virtual reality environments as 'uniquely invasive', noting that biometric and behavioural data can reveal information about health, sexuality, political beliefs, and religious affiliation that the individual has never consciously disclosed. The GDPR's definition of personal data — 'any information relating to an identified or identifiable natural person' — is broad enough to encompass all of these categories, but the GDPR was not designed specifically for the metaverse, and significant interpretive work is required to apply it to immersive virtual environments.

7.2 The Digital Personal Data Protection Act 2023

India's Digital Personal Data Protection Act 2023 (DPDP Act) represents a significant legislative step, but its adequacy for the metaverse context is questionable. The DPDP Act defines 'personal data' as 'any data about or relating to a natural person who is directly or indirectly identifiable.' This definition is broad enough to encompass the categories of data collected in metaverse environments, but the DPDP Act's provisions — which focus primarily on consent, data fiduciary obligations, and data localisation — were designed with conventional data processing in mind.

The DPDP Act's consent framework is structurally inadequate for the metaverse. The Act requires 'free, specific, informed, and unambiguous' consent as the primary legal basis for personal data processing. In a metaverse environment, however, the sheer volume and variety of data collected — moment-by-moment, across every aspect of the user's virtual existence — makes granular consent mechanisms practically unworkable. Users are unlikely to read and meaningfully assent to consent requests covering the collection of gaze direction data,

locomotion patterns, and emotional response indicators every time they log into a virtual environment. The DPDP Act's consent framework thus risks being either systematically circumvented (by platform operators who bundle all data collection into a single consent) or mechanically complied with in a way that provides no meaningful protection.

7.3 Biometric Data: Special Category Status

Biometric data — facial geometry, iris scans, voiceprints — is among the most sensitive categories of personal data, because it is immutable (a person cannot change their fingerprints after a data breach) and can enable re-identification across different data sets. The DPDP Act 2023, unlike the GDPR, does not explicitly create a special category of sensitive personal data, though the earlier Personal Data Protection Bill 2019 had done so. The decision not to retain the special category framework in the enacted DPDP Act is a significant lacuna in the context of the metaverse, where biometric data collection is endemic.

The US Supreme Court in United States v Carpenter recognised that digital data capable of revealing intimate personal information about an individual attracts Fourth Amendment protection, establishing the principle that the constitutional right to privacy extends to digital records. The Indian Supreme Court's recognition of privacy as a fundamental right under Article 21 in K S Puttaswamy v Union of India provides a constitutional foundation for robust protection of biometric and behavioural data collected in metaverse environments. The challenge is to translate this constitutional principle into specific statutory obligations on metaverse platform operators.

7.4 Children's Privacy in the Metaverse

The metaverse is a particularly acute environment for children's privacy. Platforms such as Roblox have user bases comprising a substantial proportion of minors. The data collection practices of these platforms — including the collection of voice data, location data, and gameplay behaviour — raise serious concerns about the adequacy of existing child protection frameworks. The DPDP Act 2023 contains provisions for enhanced protection of children's personal data, requiring verifiable parental consent for data processing relating to children under 18. But the mechanisms for implementing such consent in an online environment — and for verifying the age of users — remain technically and practically problematic.

7.5 Platform Accountability and Data Localisation

Most major metaverse platforms are incorporated and headquartered outside India. Their servers, which store the personal data of Indian users, may be located in the United States, the European Union, Singapore, or elsewhere. The DPDP Act 2023 empowers the Central Government to designate certain categories of personal data that must be stored and processed

within India. If biometric and behavioural data collected in metaverse environments were designated as subject to localisation requirements, foreign platform operators would face significant compliance costs. The risk is that such requirements, while protective of Indian user data, could also impede the development of the Indian metaverse sector by deterring foreign platform investment.

The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 impose due-diligence obligations on 'significant social media intermediaries' — platforms with more than five million users. The application of these obligations to metaverse platforms — which combine social media, gaming, commerce, and financial services within a single environment — is not straightforward, but the 2021 Rules provide a potential regulatory hook for imposing accountability obligations on large metaverse operators.

CHAPTER VIII: CONSUMER PROTECTION AND LIABILITY IN THE METAVERSE

8.1 Consumer Rights in Digital Markets

The Consumer Protection Act 2019 represents India's most recent and comprehensive legislative framework for consumer protection, and its application to metaverse transactions is both necessary and complicated. The Act defines a 'consumer' as a person who buys any goods or avails any services for consideration. A user who pays real money for virtual goods — whether directly or by converting real money into platform currency — is plainly a consumer within this definition, and the platform operator is a seller of goods or provider of services. The Consumer Protection (E-Commerce) Rules 2020 further specify obligations for e-commerce entities, and while these rules were designed for conventional online retail, their principles — particularly around disclosure, quality standards, and grievance redressal — should extend to metaverse commerce.

8.2 Loot Boxes, Gambling, and Regulatory Overlap

One of the most legally contested aspects of metaverse and gaming economies is the 'loot box' — a randomised virtual reward mechanism in which users spend real or virtual currency in exchange for a chance to receive one of a range of virtual items of varying rarity and value. Loot boxes are structurally similar to games of chance, and their regulation sits at the intersection of consumer protection law, gambling law, and financial regulation.

The Public Gambling Act 1867, which is India's primary gambling legislation (though many states have enacted their own gambling laws), was drafted long before the digital age. It prohibits 'common gaming houses' and participation in certain games of chance, but its application to online virtual environments is uncertain. The question of whether a skill-based or chance-based distinction applies in the metaverse context has been addressed in the gaming context: the Punjab and Haryana High Court in Varun Gumber held that fantasy sports involve sufficient skill to fall outside the definition of gambling, and the Bombay High Court upheld this approach in the Dream11 case. But loot boxes, unlike fantasy sports, involve no skill: the outcome is determined entirely by chance, suggesting that they may constitute gambling under existing law.

8.3 Platform Liability for Virtual Asset Loss

When a user loses metaverse assets — through a platform hack, a smart contract exploit, or an arbitrary ToS change — the question of platform liability becomes acute. The IT Act 2000 provides a broad safe harbour for 'intermediaries' (platforms that host third-party content),

exempting them from liability for acts of users. But the safe harbour's application to virtual asset losses is questionable: when the platform itself is the party responsible for the loss (through negligent security or arbitrary confiscation), the safe harbour provides no protection. And even when the loss results from third-party action, the platform's obligation to maintain adequate security may give rise to liability in negligence or under consumer protection law.

The Shreya Singhal decision, while primarily concerned with free speech, affirmed that the IT Act's safe harbour provisions must be interpreted in light of constitutional rights, including the right to property. This implies that courts may be prepared to lift the safe harbour on situations when the operators of the platform have not made reasonable efforts to secure the assets of the user. Consumer Protection Act 2019 gives a second cause of action, enabling consumers to recover damages due to service defects and unfair trade practices - which may include arbitrary changes to the terms of service that deny users assets rightfully acquired.

8.4 Advertising, Misrepresentation, and Virtual Goods

The metaverse has given rise to novel forms of advertising and marketing, including in-world advertising (virtual billboards, sponsored experiences, avatar-based endorsements) and the marketing of NFTs and virtual assets as investment opportunities. Indian advertising standards — as articulated in the Consumer Protection Act 2019 and the Advertising Standards Council of India's code — apply to digital advertising, but their specific application to immersive virtual environments has not been tested.

The marketing of NFTs and virtual land as investment opportunities raises specific concerns about misleading advertising and investor protection. Where promoters have made specific claims about the investment returns to be expected from virtual asset purchases, the relevant legal framework includes not only consumer protection law but also the Securities and Exchange Board of India Act (if the assets are securities) and the Indian Penal Code's provisions on cheating and fraud. A number of studies by Indian enforcement agencies have been concerned with platforms that marketed virtual assets promising unrealistic returns a trend that is all too familiar with traditional Ponzi schemes.

CHAPTER IX: FOREIGN JURISPRUDENCE AND COMPARATIVE REGULATORY APPROACHES

9.1 The United States

The United States has been dealing with the problem of digital and virtual assets by a mixture of judicial development, sectoral regulation, and, more recently, via extensive legislative proposals. The US model is typified by: the enforcement of legal frameworks already in existence on the digital (the Howey test of securities, the Lanham Act of trademarks, the DMCA of copyright) to digital objects; enforcement by the SEC, FTC and state attorneys general; and the gradual creation of digital-specific legislation, both federal and state. American courts have applied the property concept to digital assets, both involving case law and the Revised Uniform Fiduciary Access to Digital Assets Act 2015, to the sphere of property law.

The virtual property cases of Bragg, Evans, Mayers have, though did not decisively answer the question of ownership-versus-licence, declared virtual assets to be cognisable enough in the law in order to support contract and tort claims. The rulings of the US Copyright Office in Thaler v Perlmutter and subsequent cases have, as of now, exempted AI-generated content of any copyright protection, yet the argument is still debated by the congress.

The vigilant enforcement stance by SEC in the digital asset sector, including the Ripple lawsuit and several enforcement proceedings against NFT-issuers, has left operators of US-based platforms with a lot of uncertainty. However, it has also generated a body of precedent on the use of securities law to digital assets that is of interest to the development of regulation in India. The fact that the SEC believes that the majority of fungible cryptocurrency tokens qualify as securities and might be finalized by the courts or reflected in law would have far-reaching consequences in the regulation of metaville financial systems. The SEC's view that most fungible cryptocurrency tokens are securities, if ultimately upheld by the courts or embodied in legislation, would have significant implications for the governance of metaverse financial systems.

9.2 The European Union

The European Union has adopted the most comprehensive and systematic approach to virtual asset regulation of any major jurisdiction. The Markets in Crypto-Assets Regulation (MiCA), which entered into force in 2023, establishes a comprehensive regulatory framework for crypto-asset issuers and service providers within the EU. MiCA classifies crypto-assets into three categories — asset-referenced tokens, e-money tokens, and other crypto-assets — and imposes specific requirements on each category. While MiCA does not specifically address

metaverse assets, its classification framework and its requirements for white papers, consumer disclosures, and service provider licensing provide a model for comprehensive digital asset regulation.

The GDPR, which has been in force since 2018, provides the world's most rigorous data protection framework and is directly applicable to the data processing activities of metaverse platforms that handle the personal data of EU residents. The GDPR's extra-territorial scope means that a metaverse platform incorporated in Bermuda but processing the data of EU users must comply with the GDPR — a principle that illustrates how data protection law can reach beyond traditional jurisdictional boundaries. The EU's Digital Markets Act and Digital Services Act, which regulate the conduct of 'gatekeepers' and 'very large online platforms' respectively, provide additional frameworks that may become relevant to dominant metaverse platform operators.

The Council of the European Union's 2023 conclusions on the metaverse called for the development of interoperability standards and for a 'human-centric' approach to metaverse governance, reflecting the EU's characteristic emphasis on fundamental rights in the digital context. The EU approach offers India several lessons: the importance of comprehensive rather than sectoral regulation; the value of extraterritorial scope in reaching foreign platform operators; and the institutional architecture required to implement and enforce a comprehensive framework.

9.3 The United Kingdom

Since Brexit, the United Kingdom has shifted its digital asset regulation policy as it is aiming to establish itself as a global financial technologies and digital assets centre. The most significant single law-making innovation in the field of digital asset law globally and internationally is the Property (Digital Assets etc) Act 2025, which was passed to receive Royal Assent in early 2025, setting out the principle that the digital assets are a third category of personal property, neither in things in possession nor things in action. This bill formalizes and broadens the judicial trends in AA v Persons Unknown and other cases that follow it, and offers a rational structure upon which disagreements over NFTs, cryptocurrency, and other online resources are resolved.

Prior to the 2025 Act, the Law Commission Reports on Digital Assets and Smart Contracts, offer comprehensive analytical doctrines of how current common law mechanisms can be translated to digital environments. The practice of the UK of a legislative recognition alongside the further judicial evolution can serve as a potentially replicable approach to India, which also has the common law tradition and equally developed courts that can propagate the

doctrine of digital assets.

Within the crypto-asset sector, the Financial Conduct Authority has introduced a registration regime to crypto-asset businesses and the HM Treasury has consulted on extending the financial promotion regime to cover a broader range of crypto-assets. The balanced strategy of the UK, which promotes innovation and at the same time sets consumer-protective regulatory conditions, can be seen as a middle way between the full-fledged regulatory approach of the EU and the enforcement-based strategy of the US which could be applicable in the context of developing India.

9.4 Singapore

Singapore has established itself as the leading Asian location of digital asset business, both in terms of regulatory transparency and a business-friendly environment. The Monetary Authority of Singapore (MAS) has provided specifications on digital payment token services, which has compelled service providers to be licensed and subject to the AML and counter-terrorism financing (CTF) criteria. The Payment Services Act 2019 of Singapore offers a licensing framework to digital payment token service providers and MAS has applied this framework to oversee a variety of crypto-asset businesses.

Singapore courts have been one of the busiest in the world as it relates to the creation of digital asset doctrine. The case of B2C2 v Quoine, reported in Chapter V, is a valuable addition to the international jurisprudence of smart contracts and property rights of digital assets. The mix of legislative transparency and judicial innovation that characterizes Singapore, in a common law system that is closely related to India, makes it a very useful comparative point of reference of Indian policy makers..

9.5 Other Jurisdictions

The Ruscoe v Cryptopia case in New Zealand, which describes cryptocurrency as personal property, subject to analysis as trust property, can be seen as a valuable input by a common law jurisdiction with a highly developed legal system. The Act on Settlement of Funds in Japan has been updated to address crypto-assets, and Japan has provided a guidance on NFT taxation. South Korea has adopted a very detailed regulatory framework on digital assets as a part of its Virtual Asset User Protection Act 2023. These changes, though particular to their respective legal systems, show a general trend of the variety of regulatory options available to India and the developing global agreement that virtual assets should be treated to specifically.

The ASEAN region in general is confronted with the challenge of regulation of virtual assets, with varying national strategies posing the risk of regulatory arbitrage. A case of a Matahari Department Store in Indonesia demonstrated the development of regional courts to

deal with virtual brand disputes, but the doctrinal frameworks applied are not well developed.. India, as a major regional economy and a common law jurisdiction, has the potential to develop a regulatory framework that could influence regional norms — a consideration that should inform the ambition and comprehensiveness of any Indian regulatory initiative.

9.6 International Standards and Bodies

Beyond individual national jurisdictions, a number of international bodies are developing standards relevant to metaverse asset regulation. The Financial Action Task Force's guidance on virtual assets and virtual asset service providers

The Metaverse Standards Forum, established in 2022 with the participation of major technology companies, is developing technical interoperability standards for metaverse platforms. While the Forum's work is technical rather than legal, interoperability standards have significant legal implications: they affect the portability of digital assets, the jurisdiction of disputes, and the allocation of liability for platform interactions. The IEEE's P2048 Metaverse Working Group is similarly developing technical standards that will shape the architecture of metaverse platforms and, with it, the legal relationships within them.

CHAPTER X: TOWARDS A REGULATORY FRAMEWORK FOR METAVERSE ASSETS IN INDIA

10.1 Foundational Principles

Any regulatory framework for metaverse assets in India must be grounded in a set of foundational principles that reflect both the specific character of the metaverse as a regulatory object and the constitutional and legislative context of Indian governance. This dissertation proposes five foundational principles that should guide the development of such a framework.

The first principle is technology neutrality. Regulation should be expressed in terms of the economic and social functions performed by virtual assets — rather than in terms of the specific technologies through which those functions are performed — so that the framework remains valid as technologies evolve. A regulation that defines virtual land specifically as 'a parcel identified by Ethereum blockchain coordinates' will be obsolete when the next generation of metaverse technology arrives; a regulation that defines virtual land functionally as 'a persistent digital entitlement that confers exclusive use rights over a defined area within a virtual environment' will remain applicable.

The second is the proportionality principle. The regulatory requirements must be adjusted to the scale of risks and harms involved. Not every asset in the metaverse has the same risks: a low-value cosmetic product in a children game will not have the same risks as a high-value NFT that is sold as an investment. The regulatory framework must also be graded in that way with less demanding requirements on the low-risk activities and more demanding requirements on the high-risk activities.

The third is institutional coordination. In India, the regulation of the metaverse means that several regulatory bodies are involved, including SEBI, RBI, MeitY, TRAI, the Income Tax authorities, and the consumer courts, the jurisdiction of which overlap. An efficient regulation must have an institutional framework, which will guarantee equivalent and coherent governance among these agencies, without confusion and duplicity. The most effective of all solutions is institutional solution as it would be an inter-agency coordination body, or a single digital asset regulator.

The fourth principle is protection of rights. The regulatory regime should be able to offer legal recognition to the genuine economic interests of users of metaverse in their virtual assets, and must offer effective remedies in cases where such interests are violated. This would entail, at least, statutory protection of metaverse assets as property under the Transfer of Property Act 1882, the Code of Civil Procedure and the Succession Act 1925 and enhanced

consumer protection laws governing transactions of virtual goods.

Harmonisation of international is the fifth principle. The platforms of the metaverse are international and a national regulatory regime will be systemically bypassed by platforms that move out or redesign to escape the jurisdiction of India. India needs to be active with international standard-setting organisations, such as FATF, IOSCO, and the OECD, and bilateral treaty partners to achieve harmonised strategies to govern metaverse assets that minimise regulatory arbitrage and achieve effective application.

10.2 Legislative Recommendations

The The dissertation suggests seven possible legislative interventions to make the above principles effective.

To begin with, the Transfer of Property Act 1882 has to be revised to incorporate a definition of the concept of digital property such that metaverse assets are also covered. It must have a functional definition that is technology-neutral, which is encompassing any enduring digital right that is economically valuable and can be transferred easily. This amendment would clarify the existing doctrinal ambiguity regarding whether assets in the metaverse should be considered property under Indian law, and would apply to them all remedies of property law, such as injunctions, conversion damages, and proprietary remedies.

Second, the Copyright Act 1957 must be revised to deal with the authorship and ownership of AI-generated and AI-assisted works. The amendment must establish a new class of computer-generated works, the author of such works should be the individual who commissioned the work, and their term of protection should be less (e.g. 25 years, versus the normal life-plus-60-years of protection) to reflect the lack of personal creative effort. The amendment must further specify who owns user generated content generated in platform environment and the default rule in this case should be to retain the copyright of the creator of such content but be subject to an assignment that has been explicitly negotiated.

Third, the Consumer Protection Act 2019 ought to be complemented by certain regulations pertaining to the marketing and sale of virtual assets. These rules must demand: transparent reporting of whether virtual assets are a type of investment or a consumer product; banning the sale of loot boxes and other forms of randomised reward systems to children; the right to refund of virtual assets that are materially inadequate or rendered inaccessible by an action of the platform; and the creation of expedited consumer courts with a particular jurisdiction over disputes involving virtual assets.

Fourth, there should be a Digital Assets Act that offers an overall framework of classification of virtual digital assets by differentiating between: consumer goods (low-value

virtual items with no investment characteristics); utility tokens (access rights and the like instruments); security tokens (instrument with investment characteristics subject to SEBI regulation); and currency tokens (instrument with monetary characteristics subject to RBI regulation). Each category is to receive a certain regulatory regime in order to correspond to the risks. Another point that should be included in the Act is the formation of the Digital Asset Regulatory Authority (DARA) to coordinate the oversight responsibilities across the categories.

Fifth, the Succession Act 1925 must be revised to include digital inheritance, providing specific inheritance procedures to transfer digital assets (including metaverse assets) at the time of death, oblige the platform operator to enable access to personal representatives, and creating a national digital estate registry to help in identifying digital assets of deceased persons.

Sixth, the Information Technology Act 2000 ought to be revised to place certain obligations on the operators of metaverse platforms, such as: security requirements to protect the assets of users; a requirement to notify of security breaches which lead to loss of assets; and a ban on unilateral changes to ToS terms that worsen the existing asset values; and a requirement that there be transparent, auditable ledgers of asset transactions. MeitY should impose these obligations and administrative fines and personal action right by the affected users.

Seventh, India must sign or accede to the applicable international instruments, such as the OECD Crypto-Asset Reporting Framework, and any future FATF binding regulations governing virtual asset regulation, and needs to ensure that Indian judgments and regulatory orders are effectively enforced, by negotiating bilateral mutual legal assistance treaties with the major jurisdictions in which metaverse platform operators are registered.

10.3 Regulatory Architecture

The above legislative suggestions must be backed by an institutional architecture. The current division of regulatory mandate among SEBI, RBI, MeitY and TRAI is a structural constraint to harmonious governance. The suggested Digital Asset Regulatory Authority is to be formed as a statutory entity that is independent and whose mandate would be consumer protection, financial stability, data protection, intellectual property enforcement, and cybersecurity in the metaverse and digital asset field. A board should be in charge of it, including representatives of all the regulatory bodies, and an independent chairperson should be nominated by the Central Government.

The DARA is supposed to be able to: make binding technical standards on the operators of metaverse platforms; investigate complaints made by users; impose administrative sanctions

on breaches of regulations; apply to the courts to seek injunction and other fair measures; cooperate with foreign regulatory bodies; and refer cases to the Serious Fraud Investigation Office, the Enforcement Directorate, or the Income Tax authorities when necessary. It must issue an annual report on the State of the Metaverse to evaluate the Indian metaverse economy, and to spot new regulatory challenges.

10.4 Judicial Capacity Building

No piece of legislation, however good, will work unless the courts which apply it to it are qualified to do so. The technical expertise of most Indian courts is not up to the task of the complexity of metaverse asset disputes, which may involve knowledge of blockchain architecture, smart contract code, cryptographic proof techniques, and the dynamics of a virtual economy. To resolve the dispute involving metaverse assets the Supreme Court and the High Courts need to create specialist benches with technical advisory service, similar to the intellectual property divisions found in certain High Courts and have jurisdiction over disputes involving metaverse assets. The assessors or court experts should be technical experts in blockchain, virtual economy, and digital architecture.

Legal education also requires and needs reform. The LLM and LLB curriculum of Indian law schools should include and incorporate substantive smount of instruction in digital asset law, blockchain law, and metaverse governance laws. The Bar Council of India should develop professional standards for lawyers practising in the digital asset space, and should facilitate continuing legal education programmes to bring practising advocates up to speed on the rapidly evolving law.

10.5 A Model Provision: The Virtual Asset Ownership and Protection Clause

By way of illustration, the following is a model legislative provision that could be inserted into the Transfer of Property Act 1882 to give effect to the first of the legislative recommendations made above:

> *"3A. Digital property. — (1) For the purposes of this Act, 'digital property' means any persistent digital entitlement that (a) has ascertainable economic value; (b) is uniquely identifiable or ascertainable; (c) is capable of being transferred by the holder thereof; and (d) is maintained in a form that confers upon the holder exclusive rights of use, whether recorded on a distributed ledger, held in a centralised registry, or maintained in any other form.*
>
> *(2) Digital property shall be treated as property for all purposes of this Act and of any other law for the time being in force, including for purposes of succession, attachment, and execution of decrees.*

(3) The Central Government may, by notification in the Official Gazette, specify categories of digital property for the purposes of this section, and may specify the conditions and procedures governing the transfer of different categories of digital property."

This is a deliberately wide-ranging and technologically-neutral model provision. Its breadth allows it to embrace the scope of both present and future metaverse asset types, and its reference to the notification power of the Central Government allows regulatory subtlety by means of subordinate legislation as the market emerges.

10.6 Addressing and Responding to the Gaming and Gambling Nexus

The overlap of metaverse gaming economies and gambling law poses a specific and a particular regulatory challenge to which the suggested framework should respond and correspond. The distinction between games of skill and games of chance — which Indian courts have drawn in the fantasy sports context — must be applied systematically to the diverse range of monetised mechanics present in metaverse environments, from loot boxes to prediction markets to speculative NFT trading. The proposed Digital Assets Act should include a schedule identifying specific metaverse mechanics that constitute gambling for purposes of the Public Gambling Act 1867 and relevant state gaming laws, providing regulatory clarity for both platform operators and users.

CHAPTER XI: CONCLUSION

11.1 Summary of Findings

This dissertation has undertaken a systematic examination of the legal status of metaverse assets in India, across the domains of property law, intellectual property law, contract law, securities regulation, data protection, and consumer protection. The central finding is that metaverse assets occupy a condition of legal indeterminacy that is both intellectually challenging and practically harmful. The Indian users who spend money on buying the virtual land, NFTs, and digital collectibles cannot be ensured the legal protection. The lack of a specific law to regulate the various agencies, along with the division of authority, is that when conflicts do occur, as they are becoming more common, the stakeholders in the issue are left with an unpredictable, costly, and in most instances useless search to find a remedy.

The analysis of property law shows that although there is no explicit exclusion in existing Indian law to include metaverse assets within the scope of the law, the lack of explicit inclusion leaves an ambiguous situation that has practical implications: courts might refuse to apply property remedies to online assets, platforms might take advantage of the ambiguity to seize user assets with impunity, and the estates of deceased users might be unable to reclaim digitally held wealth. The copyright, trademark and other related rights analysis indicates that, in principle, copyright, trademark and other rights apply to creations in the metaverse, but that Terms of Service posted by platforms, which are dubious in their enforceability, systematically claim to transfer those rights to operators of those platforms. The analysis of the contract law shows that ToS agreements, even though they might be valid in formal sense, include the clauses that can be regarded as troubling in the light of the Consumer Protection Act 2019 and the doctrine of unconscionability.

In the securities regulation analysis, some metaverse assets, especially fungible tokens with investment properties, might be considered securities under both current Indian and US laws, but no official Indian ruling has been issued to this effect, leaving users and issuers in limbo. The analysis of the data protection shows that although the DPDP Act 2023 is a major legislative step and revolutionary but it is still structurally insufficient regarding the highly intimate data collection practices of the metaverse. The consumer protection analysis indicates that, although the Consumer Protection Act 2019 and the 2020 E-Commerce Rules may offer a potentially applicable framework, its application to virtual goods has not been put to the test, and needs regulation clarification.

11.2 Contribution to the Field

This dissertation has a number of contributions to the scholarship. First, it is one of the first works offering a systematic doctrinal studies of metaverse asset law in Indian context, which brings together various bodies of law that are traditionally addressed separately.

Second, it conducts an intensive comparative law analysis of regulatory developments in United States, European Union, United Kingdom, Singapore, New Zealand and ASEAN region and finds out the most transferable lessons to Indian regulatory development.

Third, it suggests a more precise, practical regulatory structure, such as particular legislative modifications and institutional design, which is based on constitutional permissibility and legislative practicability.

Fourth, it detects certain gaps in the current literature that indicate areas of interest in future studies.

11.3 The Urgency of Reform

The pressing nature of the regulation change in this field is hard to overestimate. The Indian metaverse economy is evolving at a fast pace, Indian retail investors are getting more exposed to virtual assets, and the lack. Interpol's first-ever Red Notice for a metaverse-related crime — issued in November 2022 — illustrates that the metaverse is already a domain of serious criminal activity, and that the absence of clear legal frameworks impedes effective law enforcement.

The PIL filed in the Delhi High Court by Vijay Kumar Singh challenging the absence of a metaverse regulatory framework reflects a growing public awareness of the issue and a legitimate expectation that the legislature and regulatory agencies will act. The Supreme Court's decision in IAMAI v RBI demonstrated the court's willingness to protect the economic interests of digital asset holders against regulatory overreach, but it also illustrated the courts' limitations as a vehicle for comprehensive regulatory design. Legislative and executive action is required.

11.4 A Vision for India's Metaverse Future

India stands at an inflection point in its digital economy development. The decisions taken in the next few years about the governance of metaverse assets will shape the Indian digital economy for a generation. A well-designed regulatory framework — one that provides legal certainty, protects consumers, enables innovation, and positions India as a global leader in digital governance — could catalyse significant economic development, attract foreign invest in the Indian metaverse industry, and safeguard the digital wealth of the Indian citizens. An inaction or an overly restrictive regulatory action will give ground to those jurisdictions

with more liberal frameworks and open Indian users to the predatory actions of unregulated platform actors.

The metaverse is not only just a technological innovation. It is a frontier of a new era of human social and economic life, and the legal structures which regulate it will define whether it is a frontier of justice, security, and opportunity, or of exploitation, insecurity and exclusion. India possesses the constitutional underpinnings, the legislative culture, the judicial savvy and the human resources that can create a regulatory framework that is up to this task. The issue is whether there is the political goodwill to put these resources into action.

This dissertation has attempted to give a doctrinal basis and policy outline to such action. The discussion which is presented here is inherently incomplete: the metaverse is changing more rapidly than ever before than the legal academia is able to keep pace, and the regulatory issues of tomorrow might differ in their particulars than those of the present. However, the basic principles technology neutrality, proportionality, institutional coordination, rights protection, and international harmonisation, and the legislative proposals furthered under Chapter X, are geared to be resilient to technological change. They represent, the dissertation contends, a principled, feasible, and urgently necessary response to the legal indeterminacy of metaverse assetsL in India.

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