



**IS VIRTUAL REAL? : AN ASSESSMENT OF WHETHER PROPERTY IN
VIRTUAL REALITY SHOULD BE SUBJECTED TO PROPERTY LAWS OF
KENYA**

Submitted in partial fulfilment of the requirements of the Bachelor of Laws degree,
Strathmore University Law School

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February 2024

Word Count: 12,766 words


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DECLARATION

I, KUIRA SEAN DOUGLAS, do hereby declare that this research is my original work and that to the best of my knowledge and belief, it has not been previously, in its entirety or in part, been submitted to any other university for a degree or diploma. Other works cited or referred to are accordingly acknowledged.

Signed: 

Date: 22.02.2024

This dissertation has been submitted for examination with my approval as University Supervisor.

Signed: 

Claude Kamau

Acknowledgement

I would like to thank God, for the strength and guidance throughout this research study, none of this would not have been possible without Him. I would also like to extend my sincere gratitude to my family, and friends; Kahero, Eve, George, Mukami and Waneku Namada for their encouragement, support, and understanding throughout this project.



List of Abbreviations

EULA – End User License Agreement

MMORPG – Massively Multiplayer Online Role-Playing Game

TOS – Terms of Service

USA – United States of America



List of Cases

Bragg v Linden Research Incorporated, United States District Court for the Eastern District of Pennsylvania, Casetext, <https://casetext.com/case/bragg-v-linden-research> , 2024.

Chen Xiao Fan, Guangzhou Tianhe District Court of China (unreported).

Li Hongchen v Beijing Arctic Ice Technology Development Company (2003), Beijing Second Intermediate Court of China (unreported).



List of Legal Instruments

Agreement on Trade Related Aspects of Intellectual Property, 15 April 1994, 1869 UNTS
299

Copyright Act (Act No. 12 of 2012)

Constitution of Kenya (2010)

Consumer Protection Act (Act No. 46 of 2012)

Land Act (Act No. 6 of 2012)



Abstract

There are various forms of property recognised in Article 260 of the Constitution of Kenya, 2010. The list provided therein is exhaustive of the property groups given. The development of technology in the 21st Century has seen the invention and growth of gaming and virtual reality spaces. These technological advancements have enabled people to interact in fictional alternate universes, embedded in computer code. In the goal geared towards mimicking real life, developers of these spaces include the ability of users to have assets with which they can utilize in the virtual worlds and transact with fellow users. However, the developers have over the past two decades maintained their stance on ownership of these assets, stating in their EULAs and TOS agreements that all Intellectual Property in the spaces belong to them. With numerous cases regarding these virtual assets, between users and developers occurring around the world, arguments against this stance have been made, with scholars making arguments for virtual assets to be granted property rights. This study aims to show how granting of property rights to virtual assets is impractical and therefore cannot be granted the said rights. It will assess the understanding of property in different legal regimes and highlight the main gap present in the question of whether virtual assets should be granted property rights. The results of this study will highlight a framework under cybercrimes that will seek to protect the users' interests in their virtual assets unauthorized access, and interference as a step towards the building of a property rights-based system for virtual assets.



CHAPTER ONE: INTRODUCTION

1.1 Background

Property in Kenya is defined and viewed as any vested or contingent right to, or interests in or arising from land, or permanent fixtures on, or improvements to, land, goods or personal property intellectual property or money, choses in action or negotiable instruments.¹ Enshrined in the law is every person's right to acquire and own property of any description in any part of Kenya.² Rights granted on property can be attributed to principles of natural justice by virtue of nobody having a private dominium exclusive of the rest of the world.³ Over the years, the understanding of property has been expanding with novelties such as knowledge forms embedded in technology being considered and included.⁴

In the mid-20th century, there were inventions around creating simulated environments for humans, experiencing them by machine and technology crafted to create the stimulation through sensory organs.⁵ These advances in technology are what led to the invention of virtual reality, an artificial environment that is experienced through sensory stimuli (such as sights and sounds) provided by a computer and in which one's actions partially determine what happens in the environment.⁶ The development of virtual reality as a technological phenomenon seeks to combine - rather than obsoletely distinguish - and build the two concepts of real and virtual into an oxymoron that acknowledges the artificiality while maintaining the reality.⁷ To avoid the risk of a state of ontological anarchy that may arise from the failure of distinguishing of real and virtual, three constraints anchor us to the reality: inevitable mortality, irreversible directionality of time, and a sense of precariousness rising from the possibility of physical injury.⁸

¹ Article 260, *Constitution of Kenya* (2010).

² Article 40 (1), *Constitution of Kenya* (2010).

³ Locke J, *Second Treatise of government*, Hafner Publishing, New York, 1690, Chapter 5, par 26; Hohfeld W, 'Fundamental legal conceptions as applied in judicial reasoning' 27 *The Yale Law Journal*, 1917, 711; Blackstone W, *Commentaries on the laws of England*, facsimile ed of 1765-69, Chicago University Press, Chicago, 1979, 2; Alschuler A, 'Rediscovering Blackstone', 145 *University of Pennsylvania Law Review* 1, 1996, 3-4.

⁴ Sikoyo G, Nyukuri E and Wakhungu J, 'Intellectual Property Protection in Africa: Conceptualizing Intellectual Property', *Africa Centre for Technology Studies*, 11 — <https://www.jstor.org/stable/pdf/resrep00103.5.pdf> 2016.

⁵ *History of Virtual Reality*, The Franklin Institute, <https://www.fi.edu/virtual-reality/history-of-virtual-reality> para. 3-7.

⁶ 'Virtual Reality', Merriam Webster dictionary, <https://www.merriam-webster.com/dictionary/virtual%20reality>.

⁷ Ryan M-L, 'From possible worlds to virtual reality: Approaches to Post-modernism', 29 *Style* 2, 1995, 176.

⁸ Heim M, *The metaphysics of virtual reality*, New York Oxford University Publishers, New York, 1993, 161.

By allowing humanity to explore the construction of an alternate environment that resembles reality, virtual reality fosters creativity and innovation among players in the technology industry. Their innovations grant to them entitlements conferred by Intellectual Property Law over their creative works, from the designs and artistic works, to symbols, images and names used, through Intellectual Property rights.⁹ Great as it may be, protection of interests in virtual reality are beyond those covered by Intellectual Property rights. This is because with the rapid growth of the space, the issue of ownership of property - which is the topic of this study – in virtual reality has raised questions of ownership as creators of characters in the spaces feel entitled to their work.¹⁰

Online gamers and users of Virtual Reality have over the years, through permissions granted in End-User License Agreements (EULAs), sold and transferred in-game ownership of their creations for fiat money, which is real money.¹¹ An attempt to ascertain whether in game assets can be considered, treated as property, and subjected to property laws was made in the United States; however, bore no fruit as the matter was settled out of court.¹² In this case it is important to note that the issue at hand was on hacking of the system Linden was offering for virtual reality, this would have expectedly had a domino effect of the court having to answer questions related to ownership of property in the space. Undeniably, that was a chance for the creation and building of jurisprudence around this matter. Perhaps the fact that the matter was settled out of court may allude to the confirmation that there is in fact a legal problem and questions to be answered on matters of property in virtual reality.

1.2 Statement of the Problem

The constitution of Kenya, and relevant statues only recognize land, or permanent fixtures on, or improvements to land, goods or personal property, intellectual property, or money, choses in action or negotiable instruments.¹³ This view arises from the fact that the formulated laws in existence regarding property do not envision the incorporation of virtual assets as property. This exclusion of property in virtual reality means that even if Kenyans invest in property in virtual reality, their interests are not protected. This study will seek to

⁹ Commission on Intellectual Property Rights, Integrating intellectual property rights and development policy, London, 2002, 12.

¹⁰ Garlick M, 'Player, Pirate, or Conducer? A consideration of the rights of online gamers' 422 *Yale Journal of Law and Technology* 7, 2004, 424.

¹¹ Molly S, 'Sale of in-game assets: An illustration of the continuing failure of Intellectual Property law to protect digital content creators' , 80 *Texas Law Review* 6, 2002, 1513.

¹² Bragg v Linden Research Incorporated, United States District Court for the Eastern District of Pennsylvania, Lexis-Nexis, <https://www.lexisnexis.com/community/casebrief/p/casebrief-bragg-v-linden-research-inc.>, 2007.

¹³ Article 260, *Constitution of Kenya* (2010).

show why assets owned in- games and virtual reality cannot be regulated by the laws of property in Kenya, despite having similarities between the two.

1.3 Research Questions

1. What are the legally relevant features of in- game and virtual reality assets ?
2. What is the comparison between in-game and virtual reality assets and property as defined and understood?
3. What is a complimentary framework of virtual reality assets regulation and the potential impact of regulating them?

1.4 Research Objectives

1. To identify the legally relevant features of in- game and virtual reality assets.
2. To compare in-game and virtual reality assets and property as defined and understood.
3. To assess a complimentary framework of virtual reality assets regulation and the potential impact of regulating them.

1.5 Hypothesis

Assets in virtual reality cannot be regulated by property laws of Kenya. Considering the research questions framed above, the study will hypothesise as follows:

- i) There are legally relevant features of in- game and virtual reality assets that bring rise to the question of their regulation as property.
- ii) There are similarities and dissimilarities between in- game and virtual assets and property as defined and understood, with the dissimilarities backing this study's hypothesis
- iii) A complimentary framework on the regulation of in- game and virtual reality assets will contribute to its protection.

1.6 Justification of the Study

The virtual industry is growing at a fast pace of close to three billion US dollars a year.¹⁴ This study is however necessary in demonstrating why assets in virtual reality cannot be regulated by the property laws of Kenya and treated as such. Although expanding access to diversified property ownership in Kenya is of significant benefit to the country and its citizens, this study

¹⁴ Alsop T, Virtual Reality (VR) – statistics and facts, – < <https://www.statista.com/topics/2532/virtual-reality-vr/#topicOverview>>, on 20 October 2022.

assesses the understanding and scope of property ownership in the country, and why virtual assets cannot be regulated as property. This study will be of benefit to the lawmakers as it will play a role in informing their research for the law-making process with regards to creating laws that will grant protection of virtual assets held by users other than the laws of property. It will benefit researchers of the relationship between virtual reality and the law, and primarily the vast majority of Kenyans who own virtual assets in Kenya yet have no regulations with that regard.¹⁵

1.7 Theoretical Framework

There are various theories of property and its justifications. They can be based on human anatomy, self-realisation, aggregate well-being, or a combination of these.¹⁶ This study will seek to evaluate whether in-game and virtual reality assets should be regulated using the economic theory of property, and the labour theory.

1.7.1. Economic Theory of property

This theory takes an economic perspective in examining property and the rights granted to it.¹⁷ It is closely tied to utilitarianism with the assumption that happiness is measured with monetary value.¹⁸ In Richard Posner's view, property refers to rights to the exclusive use of valuable resources¹⁹ whose value is based on an individual's willingness to pay. This caveat of value being based on an individual's assessment of and consequent willingness to pay for property leads to the maximization of a property's value. The theory also includes three attributes attached to property viewed under the lens of economic theorists. These three attributes are; universality, universal exclusivity, and transferability.²⁰

Universality to mean all property must be owned by someone, universal exclusivity refers to owner's right to exclude all others from using the property, and transferability granting the property rights ability to be transferred freely and easily.²¹ These three attributes are what

¹⁵ <<https://kenyanwallstreet.com/kenya-among-countries-world-highest-per-capita-holding-bitcoin-citi/>> on 8 October 2019.

¹⁶ Alexander G and Peñalver E, An Introduction to Property Theory, Cornell Law School, Legal Studies Research Paper Series, 12- 15, 2012, 6 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2041517 Cambridge on 8 April 2012.

¹⁷ Kariuki F, Ouma S, Ng'etich R, 1 ed, *Property Law*, Strathmore University Press, 2016, 41.

¹⁸ Sprankling J, *Understanding property law*, 2 ed, Matthew Bender, New Jersey, 2007, 18.

¹⁹ Posner R, *Economic analysis of law*, 6 ed, Aspen Publishers, New York, 2003, 31.

²⁰ Butler H, Drahozal C and Shepherd J, *Economic analysis for lawyers*, 3 ed, Carolina Academic Press, Durham, 2014, 18-19.

²¹ Kariuki F *et al*, *Property Law*, 42.

inform the evaluation of in-game and virtual reality assets from the lens of the economic theory of property.

Based on the economic theory of property, granting property rights confers two types of economic benefits, static and dynamic benefits. Tying it to ownership and exclusivity, static benefits refers to benefits arising from attenuated property rights which can be manifested in them being not exclusive or fully enforceable.²² The net effect of a static type of benefit is negative, as beneficiaries of the attenuated property are oblivious to the costs incurred to the owner of the property, leading to underutilization of the property's value as all costs go to one owner, with no remuneration or benefit to them. The avoidance of static benefits leads to dynamic benefits, which are the essence of this study in the evaluation of whether virtual assets should be granted property rights.

Granting enforceable property rights to an owner with attenuated property rights first results in the static benefit of the owner's property maximization. The dynamic benefit of a property right is the incentive to invest in the creation or improvement of some resource over time.²³ When an owner is granted exclusive rights, they are guaranteed maximum benefits from the property, or at the very least, no expense incurred to them from the benefit of others.

These benefits arising from and informing the economic theory are tied to the core subject of this study in its evaluation of whether virtual assets should be granted property rights. From the exclusivity and transferability granted through licenses by developers through EULAs, the economic theory of property manifests itself through investments made by users in their virtual assets, and the subsequent transferability based on monetary value in the marketplace. This study's framework will be built around the core aspect of value – that is – value of the assets in virtual reality, and where it derives its value from, and the three attributes by Butler²⁴ and Dahozal.²⁵ which are required in this economic theory view of property. The value referred to brings rise to the creation of user interests in the assets, which clash with those of the developers. The nature and understanding of property rights vis-à-vis this economic theory of property forms the hypothesis of this study.

²² Butler H *et al*, *Economic analysis for lawyers*, 18.

²³ Butler H *et al*, *Economic analysis for lawyers*, 19.

²⁴ The author is a professor of law, economics and public policy, the former executive director of the Law and Economics Centre at Antonin Scalia Law School.

²⁵ The author is a professor of law at University of Kansas School of Law. He is an internationally recognized scholar of law and the economics of dispute resolution, particularly arbitration.

1.7.2. Labour Theory of Property

This theory posits that property is a natural right, acquired by one in his own person and that which he works for.²⁶ Under this theory, private rights over common resources are acquired by a person after they expand their labour on the thing.

Looking into in-game and virtual reality assets, this study will rely on the creation aspect of these assets and the subsequent ownership rights that are acquired by the creators. Interests in the virtual assets arise by virtue of them having invested their labour into the creation of these assets.

The labour theory argument in favour of users of games and virtual reality in the granting of property rights is limited by one crucial aspect. These efforts put into the creation, and improvement of their virtual worlds and assets are well within their rights granted in the EULAs and TOS agreements by developers. The negating factor in the treatment of these assets is that the very same agreements grant these abilities on the basis that the users are granted licenses, thereby no ownership of the assets in question.

Tying the labour theory approach to the economic theory discussed above, the clash between the two parties, that is users and developers, is demonstrated more under the labour theory. There has to be an objective assessment of the labour dispelled by users on their virtual assets and whether it amounts to anything beyond their expected usage of the virtual reality and game services.

The demonstration of the value of property in virtual reality, and its source of value, and the fulfilment of the three attributes of property under economic theory, form the basis of most proponents' arguments towards the granting of property rights to virtual assets. They however ignore the crucial consequence of granting property rights to virtual assets, as they create new interests arising in the assets, against those of the developers. Failure to resolve this conflict comprehensively quashes the practicality of granting virtual assets property rights, as is the argument of this study.

1.8 Literature Review

This study's literature review is in three elements, with the first differentiating assets in virtual reality from Intellectual Property, while the other is a review on two elements that are crucial to the body of this study.

²⁶ Locke J, Second treatise of Government, Chapter 5, par 124.

1.8.1 On the difference between assets in virtual reality and intellectual Property

Property can be tangible and intangible in nature. An intangible form of property that is recognised is intellectual property. It is viewed as the recognition, protection and promotion of the works or products of the mind; of human creativity embodied in tangible form,²⁷ as defined by Professor Ben Sihanya. Virtual property is, generally speaking, defined by Peter Brown as an asset created, collected, purchased, sold, or transferred within an MMORPG (Massively Multiplayer Online Role- Playing Game), or virtual spaces such as money, weaponry, clothing, land, or other goods that have value inside the particular game's virtual world.²⁸

Professor Fairfield sought to differentiate the two by acknowledging the fact that ownership in a thing is always separate from the ownership of the intellectual property embedded in it. He averred that ownership of virtual property does not threaten the intellectual property interest held by the creator of the property, and instead protects the interest of the purchaser of the object.²⁹ It was his position that the two forms of property complement each other and are therefore not the same.

Susan Abramovitch and David Cummings affirmed this stance by arguing that owning a right to a particular code does not mean that the owner of a piece of virtual property has the right to copy the intellectual property of the virtual thing.³⁰ Charles Blazer further posited that the difference between virtual property and intellectual property is that the former is rivalrous. It is his view that virtual reality behaved like real property and was different from intellectual property due to its rivalrous nature, different from intellectual property's non-rivalrous nature.³¹ It is therefore imperative to note that however much these two unique types of property are intangible in nature, they are different, forming the basis and need for this study.

1.8.2 On whether assets in virtual reality fit into the understanding of property

Gregory Lastowka and Dan Hunter view assets in virtual reality as real property by observing that virtual reality spaces, and virtual games have real property systems within them that conform to the expectations of modern private property systems. This is through the

²⁷ Sihanya B, *Intellectual Property and Innovation Law In Kenya and Africa: Transferring Technology for Sustainable Development*, 1 ed, Sihanya Mentoring & Innovative Lawyering, Nairobi and Siaya, 2016, 1.

²⁸ Brown P, Raysman Richard, 'Property Rights in Cyberspace Games and other Novel legal Issues in Virtual Property', 2 *The Indian Journal of law and Technology*, 2006, 88- 89.

²⁹ Fairfield J, 'Virtual property,' 85 *Boston Law Review* 35, 2005, 1096.

³⁰ Abramovitch S, Cummings D, 'Virtual Property Law, Real Law: The regulation of Property in Video Games', 6 *Canadian Journal of Law and Technology* 2, 2007, 76.

³¹ Charles Blazer, 'The Five Indicia of Virtual Property', 5 *Pierce Law Review* 137, 2006, 148.

existence of things such as alienation of property, transfer of the said property, value of the property in local currencies and so forth.³²

Andrew Jankowich referred to Lastowka's view of virtual property's similarity to real property averring the position by arguing that the common factor between the two forms of property, is in the earning of the money, both real and virtual. He posits that whether earning real money or virtual money, the common component is the use of real- time, in the work involved, including the perfection of skills, marketing and so on.³³ To him, the investment of time in earning money in the real world suggests that money earned from virtual property is a premise to consider the property, or at least compare it to real property.

This view speaks to both the labour and economic theories of property as its foundation is that of the monetary aspect, and the time and labour invested aspect, both of which qualify assets in virtual reality for regulation by the property laws of Kenya.

1.8.3 Contribution to literature

This study will, as a whole, contribute to studies of property in virtual reality and open doors to discussion of other legal relationships arising from virtual reality. While there have been no studies on this topic in Kenya, it is important to note that researchers and authors are gravitating towards consideration of property away from the dominant regimes of property rights, with authors such as Judy Wakhungu and George Sikoyo noting the same.³⁴

This study will also create the need for regulation of virtual reality worlds in Kenya so as to foster establishment of the industry and subsequent growth of the same while seeking to protect the interests of the consumers who in this case are Kenyans.

1.9 Methodology

This study will consist of three major parts namely; the study of principles of property in Kenya, the study of property in virtual reality and its similarity to real property in Kenya, and a possible legal framework that treats property in virtual reality as real property and subjects it to property laws in Kenya. The whole project will primarily be done through a deductive approach to make claims based on premises already existent.

For the first part, the study will use a doctrinal analysis to highlight and assess the rules arising from the constitution of Kenya 2010, statutes such as the Land Act and judge-made

³² Lastowka G, Hunter D, 'The laws of the Virtual Worlds', 92 *California Law Review* 1, 2004, 40.

³³ Jankowich A, 'Property and Democracy in Virtual Worlds', 11 *Boston University Journal of Science and Technology Law Review* 2, 2005, 183.

³⁴ Sikoyo G *et al*, 'Conceptualizing intellectual property', 11.

law. There is no law or provision that directly speaks to the core of this study - whether providing for or excluding - or any case adjudicated by a court of law. The claim made will therefore be reached at by using a deductive approach.

For the second part, the study will use two methods of analysis which are a deductive approach to the set of existent premises and a philosophical analysis that will seek to showcase the similarities between assets in virtual reality and real property in Kenya. The former will be mainly achieved through looking into legally relevant features of assets in virtual reality and in- platform regulations in their terms and conditions of use on the same whereas the latter will be achieved through looking at articles and studys done by philosophers of property and its rights. Contracts such as Terms of Service and End User License Agreements will be utilized for this part.

For the final part of the study, the study will use a historical comparative analysis of how legal frameworks are built and how they come to be. A showcasing of patters observed in instances where the law has adapted to innovation will form a crucial part in the writing of this final part. In order to have a well-functioning legal framework on property in virtual reality, an institutional analysis will be fundamental in highlighting the necessities of having a working legal framework.

1.10 Chapter Breakdown

Chapter one forms the foundation of this study. It details, among others, the research objectives, research questions, a theoretical framework and the justification of the study and thus sets the foundation for the subsequent chapters. Chapter two will go into studying the legally relevant features of in- game and virtual reality assets.

Chapter three of the study will be a comparison of in-game and virtual reality assets and property as defined and understood. In chapter four, the study assesses a complimentary framework of virtual reality assets regulation and the potential impact of regulating them. The study will be concluded in chapter five with recommendations on how to approach regulation of assets in virtual reality.

CHAPTER TWO: LEGALLY RELEVANT FEATURES OF IN-GAME AND VIRTUAL REALITY ASSETS

2.1 Introduction

This chapter will seek to answer the first research question in the study that is, what the legally relevant features of in- game and virtual reality assets are. The chapter will answer this question by; first, stating the relevant laws around the broad facets of the law involved in virtual reality. These broad facets of the law are the human rights, law of contracts, and property law which includes intellectual property. The chapter will thereafter narrow down the focus to the legally relevant features of in- game and virtual reality assets.

Users of games and virtual reality spaces are part of various forms of legal relationships between themselves and their service providers. These relationships create various duties and rights owed to each other, to ensure each of the parties' interests are protected. The relationships that will be discussed are based on concepts found in the Law of Contracts, Intellectual Property Law, and Property Law.

2.2 Laws governing in- game and virtual reality spaces, their developers, and their users

The very basis of this study is man's right to own property, as protected by the constitution of Kenya.³⁵ The constitution further gives a definition of property in which assets in virtual reality and games are not included.³⁶ This chapter seeks to highlight the legally relevant features of virtual assets forming basis for the overall claim that they should be regulated as property in Kenya.

Before users gain access to a gaming or virtual reality space, they are met with a contractual agreement that they have to agree to. These agreements are standard form agreements prepared by the developers, which are agreed to by users in a click-wrap form of acceptance. They can either be End-User License Agreements (EULAs), or Terms of Service (TOS) agreements.³⁷ Users accept these contracts and effectively enter into them by clicking a check box written 'I agree' used as a way of showing acceptance. The agreement is on the terms provided therein. They could be terms and conditions, TOS, or EULAs.

³⁵ Article 40 (1), *Constitution of Kenya* (2010).

³⁶ Article 260, *Constitution of Kenya* (2010).

³⁷ Langenderfer J, End- User License Agreements: A new era of Intellectual Property Control, 28 *Journal of Public Policy and Marketing* 2, 2009, 202.

These contracts are meant to protect the interests of both developers, and users.³⁸ This is however arguable for two reasons; first, the contracts are drawn by the developers meaning there is no part the users play except in the acceptance of the contract, calling in question whether the users' interests are truly protected. The second reason, which co-occurs with the first is the unconscionability aspect of the contracts,³⁹ which more often than not deny users interests like their right to property in assets they accrue in the game,⁴⁰ and treatment of the same as property by sale can lead to disciplinary action.⁴¹ Users being tied down to a take it or leave it approach by developers creates a power imbalance that tilts over to the extent of unconscionability.

Games and Virtual Reality spaces are artificial environments within which users have the power of a creator, exploring the construction of an alternate environment that resembles reality. The construction element of these spaces entail creation, that results into avatars, tools, structures, art among other things. In the EULAs and TOS agreements, developers provide for a term that dictates they own all the Intellectual Property rights in everything emanating from the games, and virtual reality spaces.

These games and spaces have in them intellectual property rights vested in them. The spaces are essentially computer codes owned by the developers. Computer codes, that is object code understood by the computers, and subject codes written by the developers, are copyrightable subject matter under literary works in Intellectual Property.⁴²

This is detrimental to the users since the developers make the mistake of viewing the Intellectual Property right in an item similar to ownership of the same based on having a right to a particular code.⁴³ Building from the argument that users are subjected to unconscionable contracts, this study makes an argument that proposes new contracts be made to enable the recognition of ownership rights in virtual reality assets among the users while the developers maintain their copyrights. The recognition of ownership of virtual

³⁸ Cifrino C, 'Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, must be the Governing Paradigm in the Law of Virtual Worlds' 55 *Boston College Review* 1, 2013, 237.

³⁹ *Bragg v Linden Research Incorporated*, United States District Court for the Eastern District of Pennsylvania, Lexis-Nexis, <https://www.lexisnexis.com/community/casebrief/p/casebrief-bragg-v-linden-research-inc.>, 2007.

⁴⁰ Roquilly C, 'Control Over Virtual Worlds by Game Companies: Issues and Recommendations', 35 *Management Information Systems Quarterly* 3, 2011, 667.

⁴¹ Horowitz S, Completing Lockean Claims to Virtual Property, 20 *Harvard Journal of Law and Technology* 2, 2007, 445-446.

⁴² Section 2, *Copyright Act* (Act No. 12 of 2012).

⁴³ Abramovitch S, Cummings D, 'Virtual Property Law, Real Law', 76.

assets does not threaten the intellectual property interest held by the creator of the property, and instead protects the interest of the purchaser of the object.⁴⁴

This is similar to the example of copyrights owned in a book by an author or owner, which does not stop others from buying and selling the book. Owning the virtual assets embedded in the particular codes does not grant the user rights to copy the intellectual property in them. This way, both the intellectual property rights of the developers and the ownership rights of the users are observed. This analogy is however limited due to the fact that in it exists the exhaustion doctrine, which refers to when an Intellectual Property holder loses legal control over a protected subject matter by virtue of selling, or releasing it into the channels of commerce.⁴⁵

These assets are created, collected, purchased, sold, or transferred within an MMORPG, or virtual spaces,⁴⁶ and thus do not necessarily belong to the developers, despite the platform and the codes belonging to them. Developers grant themselves ownership of all intellectual property rights in the EULAs and TOS agreements.⁴⁷ Once a user accepts these agreements, they are bound to them which means that they agree to, and recognise the intellectual property rights belonging to the developers, and their lack of any ownership rights in the same.

Developers need to stop viewing their Intellectual Property interests as absolute, and recognise that within the virtual worlds they build lie other forms of interest, which for purposes of this study, are property rights. Developers have a duty to protect the interests of the users who are their consumers of their services. Users can be recognised as consumers since they are users of the particular service⁴⁸ that is, the games and virtual reality space. Their duty to protect stems from the constitution which grants consumers a right to be protected.⁴⁹ This argument emanates from the economic view of these virtual assets which primarily affect users. In chapter three of this study, an analysis is done on the economic aspect of these virtual assets that necessitate the protection of the investors of these spaces, who are primarily the users. This will eventually create the need to do away with the existent

⁴⁴ Fairfield J, 'Virtual property', 1096.

⁴⁵ Kameri-Mbote P, Muraguri L, Boadi R, *Intellectual Property Rights in Kenya*, Konrad Adenauer Stiftung, Nairobi, 2009, 28.

⁴⁶ Brown P, Raysman Richard, 'Property Rights in Cyberspace Games and other Novel legal Issues in Virtual Property', 88- 89.

⁴⁷ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions> , 2022, 1.1; Decentraland Terms of Service, <https://decentraland.org/terms/#12-proprietary-rights> , 2023, 12.

⁴⁸ Article 2, *Consumer Protection Act* (Act No. 46 of 2012).

⁴⁹ Article 46 (1)(c), *Constitution of Kenya* (2010).

unconscionable contracts that developers provide,⁵⁰ and shift to new ones that recognise ownership rights of the users.

From this introduction, it is evident that there lacks the recognition of an important aspect of virtual reality assets in relation to the users' rights. The existent legal regime around this topic fails to cover the ownership aspect of virtual assets by users, which has been and is still on the rise in the world. Existent laws comprehensively cover the foundational aspect of virtual reality, which in its formative spaces did not consider the main problem of transferability of virtual assets for real world value.

2.2. Features of in-game and virtual reality assets under the law of property regime related to ownership

Every person has the right to own property.⁵¹ The ownership of assets in games and virtual reality is what brings about protection of property rights in these assets. Ownership is the quantum of rights a person has in a thing that cause people to assume that the thing belongs to the person⁵² Ownership under Roman Law, is mainly concerned with dominium, where one has exclusive rights over property, from which the absoluteness created private property.⁵³

An argument is made that in- game and virtual reality assets accrue property rights based on the ownership aspect of both the users and the developers.⁵⁴ This ownership emanates from the creation, purchase, transfer, or through awarding of the assets. These transfers are enabled to happen among users, and between developers and the users. SecondLife, a virtual reality space, provides for the ability to transfer assets, referred to as virtual tokens, in their terms and conditions.⁵⁵ The argument of property rights accrual is therefore backed on the fact that users get to experience ownership aspects in their use of the virtual spaces, however much without the recognition of the rights by the developers.

These ownership-like rights are diluted by the fact that the developers own copyright in these items, through EULAs and TOS agreements in which they embed the inability of users to sell the assets. These assets are also not recognised as digital property belonging to the users due

⁵⁰ Roquilly C, 'Control Over Virtual Worlds by Game Companies', 660.

⁵¹ Article 40, *Constitution of Kenya* (2010).

⁵² Rose C, 'Possession as the Origin of Property', 52 *University of Chicago Law Review* 73, 1985, 76.

⁵³ Cheng T, 'The Origin of Ownership and the Legitimacy of the Existence and Continuation of the System: A Civil Law Person's Interpretation of the Private Property Protection System in the Basic Law of the Macao SAR', 1 *Academic Journal of "One Country, Two Systems"* 1, 2011, 122-123.

⁵⁴ Fairfield J, *Owned: Property, Privacy, and the New Digital Serfdom*, 1 ed, Cambridge University Press, Cambridge, 2017, 16.

⁵⁵ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions>, 2022, 3.1.

to generalization of virtual property as intellectual property which reduces the junctures in which courts, and commentators look beyond the category of intangible property in formulating their rules for new forms of virtual property.⁵⁶

It is part of this study's argument that the efforts put into earning, improving, purchasing, and maintenance of assets in virtual reality show an ownership-like aspect that the users have, or in the very least believe to have.

2.2.1. Right to exclude

Users of games and virtual reality have the right to alienation of their assets, which bars all other users from accessing. This right is granted to them by the developers in the EULAs and TOS agreements.⁵⁷ Users are therefore bound by contract to observe these terms, in their exercising their duty to not access and use assets belonging to others, while enjoying their right to exclude. This right to exclude belonging to the users enables them to prevent other users from possessing or using their assets. This right arises once they enter into the EULA agreements which grant them licenses to use these spaces in code.

This exclusion goes hand in hand with the aspect of dominium which for one to exercise ownership and dominion over an external thing of the world, he has to exercise it in total exclusion of the right of any other individual in the universe.⁵⁸ This aspect is seen in real property in the world through the rivalrous aspect of property. Property being rivalrous means that the owner excludes other people from using or accessing their property without permission.⁵⁹ This carries with it the discretion to exploit it to the owner's discretion.⁶⁰

Virtual reality spaces and assets are rivalrous since once a user is granted license to a particular asset, they enjoy the subsequent right to grant access and utility of their assets to others in the space.⁶¹ If a party leases out a virtual building in a virtual reality space, they access and use the virtual building to the exclusion of others. By virtue of the license granted to one user, other users are restricted from accessing that space unless authorized by the licensee.

Excludability of assets in virtual reality are however limited to the terms and conditions set out in EULAs and TOS agreements, which by virtue of being adhesion contracts take away

⁵⁶ Moringiello J, 'False Categories in Commercial Law: The (Ir)relevance of (In)tangibility' 35 *Florida State University Law Review* 1, 2007, 60.

⁵⁷ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions>, 2022, 3.4.

⁵⁸ Blackstone W, *Commentaries on the Laws of England*, 2.

⁵⁹ Merrill T, 'Property and the Right to exclude', 77 *Nebraska Law Review* 730, 1998, 730.

⁶⁰ G Kevin, 'Equitable Property', 47 *Current Legal Problems* 2, 1994, 160.

⁶¹ Charles Blazer, 'The Five Indicia of Virtual Property', 148.

the absolute exclusionary aspect of property. This lack of absoluteness is however more of a positive aspect than negative in the sense that it is parallel to society's understanding of property. Since users are granted use of virtual assets through EULAs, an argument can be made that these assets are limited to the license's terms and conditions. This is similar to what exists as licensed land in the Kenyan jurisdiction, which allows a licensee to do some acts in relation to the property.⁶² A property owner is required to fulfil certain social obligations and ensure that he holds the goods in a manner that is sustainable.⁶³ Similarly, developers and owners of games, and virtual reality spaces dictate how users relate with each other, things they can do, and those that they are not allowed to do lest their assets are taken, and usership revoked.

Since developers only grant licenses to users, and their failure to recognise ownership of virtual assets, breach of EULAs and TOS agreements result into revocation of the user's abilities in the space and taking away of the assets. A change in the agreements to recognise ownership of assets is necessary in order to grant, and subsequently forfeit ownership of virtual assets.

2.2.2. Right to transfer

Assets in games and virtual reality can be transferred from one player to another within the virtual world.⁶⁴ The right to transfer is the right of disposal of one's ownership rights in property to another person and renouncing their own such rights.⁶⁵ Developers enable the transfer of virtual assets amongst users through EULAs and TOS agreements as long as they are in line with conditions provided in the agreements. The right to transfer is limited within the spaces, from which the problem being addressed in this study arises. Users have over the years shifted from transferring their assets in the spaces, and transacted outside them for real world value. This is however in contravention of their obligations set out in their EULA agreements, a problem that developers have not been able to curb.

Transfer rights are however not essential in the recognition of some forms of property due to their nature that cannot be transferred which include pensions,⁶⁶ or ancestral land held communally. In the space of games and virtual reality, in-game assets do not fall under this

⁶² Section 2, *Land Act* (Act No. 6 of 2012).

⁶³ Kariuki F *et al*, *Property Law*, 7.

⁶⁴ Boone M, *Virtual Property and Personhood*, 24 *Santa Clara and Computer High Technology Law Journal* 4, 2007, 720.

⁶⁵ Kariuki F *et al*, *Property Law*, 9.

⁶⁶ Sprankling J, *Understanding property law*, 6.

category of property that cannot be transferred, and therefore validate them to be viewed as property.

The ability to transfer assets within the gaming and virtual reality spaces has led to the commoditization of assets. This commoditization has extended into the real world, with users trading and exchanging virtual assets for real value. That is, virtual property can be exchanged for virtual money, and both virtual money and virtual property can be exchanged for real-world money.⁶⁷ Using SecondLife as an example, they provide Linden dollars as a virtual currency with which users can use in the transaction of virtual assets in virtual spaces.⁶⁸ This virtual currency has however, gotten real world value due to market forces and nature of supply and demand, with the current rates being one US dollar is equivalent to two hundred and seventy linden dollars.⁶⁹ In another virtual space, decentraland, virtual real estate transactions for the year 2021 were worth 110 million US dollars.⁷⁰

This is despite EULAs and TOS denying users property rights in their assets therefore barring the transfer the virtual assets to other users in exchange for real world monetary value. Despite their high value, these transfers of virtual assets for real world exchange remain illegal due to both the failure of recognition of ownership rights to enable the out of space transfer of the assets and the subsequent breach of contracts in the same.

2.2.3. Legal claims arising from virtual assets disputes.

Limiting one's ownership, and excludability rights in games and virtual reality spaces, brings about cause for legal claims. In China, the Beijing Second Intermediate Court considered a complaint by a virtual inhabitant against the holder of the online environment in a dispute over ownership of virtual property.⁷¹ The complainant's virtual property was taken by a third party after his account was hacked. The lower court directed that the developer, the defendant, had a contractual obligation to restore the property back to the applicant, a decision that was affirmed by the court of appeal. As much as the court's decision was guided by contract principles and obligations arising due to the contract between the developer and

⁶⁷ Abramovitch S, Cummings D, Virtual Property Law, Real Law', 74.

⁶⁸ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions> , 2022, 2.2.

⁶⁹ Wilson J, 'Linden to Dollar Conversion: Everything you need to know', Chronic Collectibles <https://www.chroniccollectibles.com/linden-to-dollar-conversion/> on 29 September 2023.

⁷⁰ Shevlin R, 'Digital Land Grab: Metaverse Real Estate Prices Rose Up to 700% in 2021', Forbes, <https://www.forbes.com/sites/ronshevlin/2022/02/04/digital-land-grab-metaverse-real-estate-prices-rose-700-in-2021/?sh=3b1d116a7cdc> on Feb 4 2021.

⁷¹Li Hongchen v. Beijing Arctic Ice Technology Development Company (2003), Beijing Second Intermediate Court of China (unreported).

the user, it was guided in order to protect a distinct property right, which is the ownership.⁷² The court reasoned that since both parties entered into both EULA and TOS agreements, the developer had a contractual obligation to ensure that the plaintiff enjoyed the use of the virtual space, which included protection of his assets within the game.

This is a trend of sorts seen in questions of virtual property before courts where the courts solely focus on approaching the matters from a law of contracts perspective. This approach is effective in so far as settling disputes is concerned, however, it does not give a solution in the long run and in the grand scheme of virtual worlds, and their problems being a day to day reality.

A similar conclusion can be drawn from one landmark case in the United States where a user sued a developer seeking financial damages and specific performance entailing the return of the user's land that was taken by Second Life, the developer.⁷³ The plaintiff argued that he had assets, which were worth north of 6000 US Dollars, which were frozen by the defendants. This value was reached upon based on the value of money he invested in the game, represented by the spaces' virtual currency. The defendant sought to have the claim quashed and referred to arbitration due to an arbitration clause in the TOS agreement. The court held that the matter would continue under litigation due to the unconscionable nature of the adhesion contract by the defendants. The matter was eventually settled out of court, denying the field of virtual property and virtual worlds a chance at building jurisprudence. This case however, shed light on the fact that there was in fact a valid claim, beyond the contractual obligation of Second Life, as to the property belonging to the user, and the subsequent financial value.

2.2.4. User protection as cause for property recognition

Another legal aspect of assets in games and virtual reality is the user protection aspect. States have a duty to protect the citizens' right to own property. That is, the need to protect the users' virtual assets. The lack of regulation results to no unauthorized access, or interference protection or deterrence as users cannot gain any form of protection unless the developer transfers rights to the user.⁷⁴ Developers still believe they have an interest in the items owned by their users, a belief that overreaches. They ascribe to themselves ownership of these assets

⁷² Fairfield J, 'Virtual property', 1089.

⁷³ Bragg v Linden Research Incorporated, United States District Court for the Eastern District of Pennsylvania, Lexis-Nexis, <https://www.lexisnexis.com/community/casebrief/p/casebrief-bragg-v-linden-research-inc.>, 2007.

⁷⁴ Nelson J, 'The Virtual Property Problem: What Property Rights in Virtual Resources Might Look Like, How They Might Work, and Why They are a Bad Idea' 41 *McGeorge Law Review*, 2010, 307.

from the Intellectual Property aspect, and do not address the ownership aspect of the assets. In their EULAs and TOS agreements, developers adequately cover Intellectual Property rights in the spaces and leave it at that. The difference between what exists and what this study seeks lies in the understanding that developers can still maintain ownership of their Intellectual Property rights, while still recognizing ownership rights of virtual assets by their users.

It is quite paradoxical that developers protect their own interest, through EULAs, but argue that virtual assets are not property that users can own, and treat as property. They classify their interests in virtual spaces as Intellectual Property, Their protection of these interests warranted as they do own copyrights, a fact which this study does not dispute, This protection however, does not warrant the denial of ownership rights of users. Consumer protection arises through the need for recognition of ownership since users invest into these games.

Aside from regulation helping in solving this problem of protection of users, one can deduce that this protection is indubitably tied to the recognition and subsequent protection of virtual property rights.

2.2.5. Virtual assets as more than developers' physical chattel

A hindrance to the recognition of property rights in virtual reality and in- game assets belonging to users is the blanket view that virtual property is tied down to the physical chattel.⁷⁵ This chattel theory of online rights is what forms basis for the unconscionable terms by developers in EULAs and TOS. They argue that since they own the servers and the codes that form the spaces, they have a proprietary interest in the codes, and all that relates to them. This view is myopic in the sense that transfer of in- game assets does not in any way affect the developer's physical chattel, or their interest thereof. Courts that have used this theory to grant injunctions in favour of e-mail service providers reasoned those large quantities of unsolicited emails interfered with the provider's interest in their servers.⁷⁶

This study assesses whether a different approach from this, which is checking the linkage between ownership of virtual reality assets and the servers. Servers belonging to developers, can not in any way be affected if users are granted ownership rights. Essentially, developers would grant ownership rights to particular sections of the code, while maintaining both their physical chattel to the same, and their rightful ownership of the copyrights in the same. This

⁷⁵ Bellia P, 'Defending Cyber Property', 79 *New York University Law Review*, 2164, 2004, 2166.

⁷⁶ *CompuServe Incorporated v Cyber Promotions Incorporated* (1997), District Court of Ohio, in the United States; *America Online Incorporated v National Health Care Discount Incorporated* (2000), District Court of Iowa, in the United States.

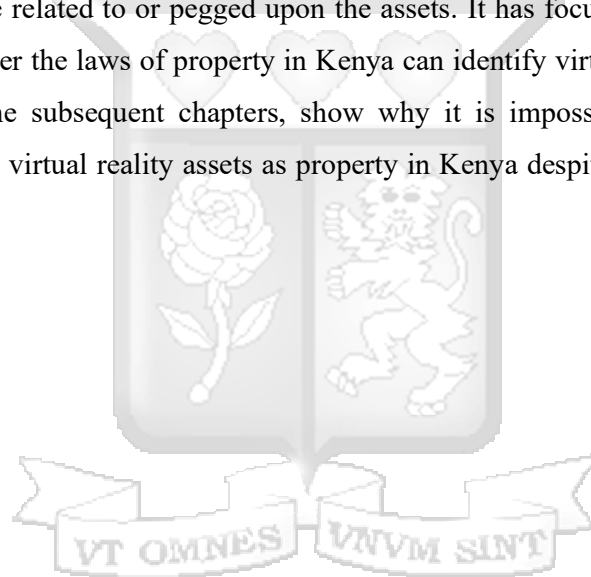
is however impractical due to the fact that the law will not be able to protect the interests of the users, over the developers' interests, which is discussed in chapter three of this study.

recognise

This approach to virtual property is inefficient as it seeks to mitigate legal claims between users and developers. Among users, acts such as destruction, invasion, and interference of virtual property are left unsolvable since none of them require one user interfering with another's physical chattel.⁷⁷

2.3 Conclusion

Assets in games and in virtual reality have features that bring about legal aspects involving different legal regimes. This chapter has shed light on the various, and arguable regimes that one might claim to be related to or pegged upon the assets. It has focused on the core of the study, which is whether the laws of property in Kenya can identify virtual assets as property. The study will, in the subsequent chapters, show why it is impossible to recognise and regulate in- game and virtual reality assets as property in Kenya despite similarities between the two.



⁷⁷ Fairfield J, Virtual property, 1081.

CHAPTER THREE: A COMPARISON BETWEEN IN- GAME AND VIRTUAL ASSETS AND PROPERTY AS DEFINED AND UNDERSTOOD

3.1 Property as defined and understood in common law.

In- game and virtual reality assets have features that are similar to what fits the description of property in Kenya. This forms the basis for this study's claim that the virtual assets should be regulated by the property laws of Kenya. Property is defined in the constitution of Kenya as any vested or contingent right to, or interest in or arising from; land, or permanent fixtures on, or improvements to, land; goods or personal property; intellectual property; or money, choses in action or negotiable instruments.⁷⁸ This chapter will draw parallels between in-game and virtual reality assets and property as recognised and regulated in Kenya.

Property is rightly understood under common law consisting of real property; comprising things real, certain incorporeal interests in things real, and a few things personal and interests in things personal, falling under the head of hereditaments, and personal property; comprising things personal, certain incorporeal interests in things personal and certain incorporeal interests in things real.⁷⁹ Personal property exists as choses in action and choses in possession. The former refers to tangible things capable of physical control, whereas the latter refers to the intangible things incapable of physical control.⁸⁰ Virtual assets are similar to personal property and choses in action in particular, due to their intangible nature, and the incapability to physically control them.⁸¹

A Beijing Second Intermediate Court considered a complaint by a virtual world inhabitant against the holder of the online environment in a dispute over ownership of virtual property, where the plaintiff's virtual assets were taken by a third party when his account was hacked.⁸² Li Hongchen, the plaintiff in this case, was an owner of virtual assets in the virtual world developed by Artic Ice Technology Development Company. The defendant's servers were attacked in a cybercrime hacking where the plaintiff lost his property as collateral damage to the attack. The defendant refused to return the property to the plaintiff necessitating him to seek damages against the developer as his claim was that he owned the virtual assets stolen,

⁷⁸ Article 260, *Constitution of Kenya* (2010).

⁷⁹ Geo P, Costigan J, 'A Plea for a Modern Definition and Classification of Real Property', 12 *Yale Law Journal* 7, 1990, 426.

⁸⁰ Kariuki F *et al*, *Property Law*, 105.

⁸¹ 'Virtual Reality', Merriam Webster dictionary, <https://www.merriam-webster.com/dictionary/virtual%20reality>.

⁸² *Li Hongchen v. Beijing Arctic Ice Technology Development Company* (2003), Beijing Second Intermediate Court of China (unreported).

which had pecuniary value. Based on the facts as discussed in chapter two, the court ordered the defendant to return the Plaintiff's belonging as the loss occurred due to a flaw in its servers.⁸³ This decision, aside being in a different jurisdiction, and one of a different legal regime, suggests that despite the court holding the developers accountable by the laws of contract, it affirmed the protection of the plaintiff's ownership rights.

3.2 Parallels between virtual assets and property as defined in the *Constitution of Kenya, 2010*.

3.2.1 Similarities between virtual assets and property as defined in the *Constitution of Kenya, 2010*

Drawing parallels between virtual assets and property as defined in the *Constitution of Kenya, 2010*, will involve looking into the similarities and dissimilarities between them. The laws of Kenya give citizens the right to own property and interests in property.⁸⁴ Pursuant to the definition of property in the *Constitution of Kenya, 2010*, there are similarities with what is found in- games and virtual worlds as items, collectibles, and virtual assets. Virtual Land, for example, is provided for in games, and virtual reality spaces. This virtual land is essentially computer-generated simulation of a three-dimensional representation of what land is, essentially a virtual space stored on developers' servers⁸⁵ Second Life, a virtual world, has the provision of buying and selling of land between the users, and restricting and allowing access.⁸⁶ The developer terms virtual land as virtual units stored on a server, which they give the right to acquire, transfer or access. This is very similar to the rights tied to land in Kenya which include the right to transfer,⁸⁷ dependent on the consent of each of the parties as required by law.⁸⁸

In order to draw a parallel between land in Kenya, and land in virtual reality, one can look at the comparison from the perspective of land tenure. All land essentially belongs to the state, with relation to territorial sovereignty in the international realm, which is similar to private ownership of land.⁸⁹ Similarly, all virtual land in virtual reality belongs to the developers, as

⁸³ Knight W, Gamer Wins Back Virtual Booty in court battle, <https://www.newscientist.com/article/dn4510-gamer-wins-back-virtual-booty-in-court-battle/>, December 2003.

⁸⁴ Article 40, *Constitution of Kenya* (2010).

⁸⁵ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions>, 2022, 3.4.

⁸⁶ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions>, 2022, 3.4.

⁸⁷ Section 43 (1), *Land Act* (Act No. 6 of 2012).

⁸⁸ Section 44 (1), *Land Act* (Act No. 6 of 2012).

⁸⁹ Clapham A, *Brierly's law of nations: An introduction to the role of international relations*, 7ed, Oxford University Press, Oxford, 2012, 168.

they are on their servers, with ownership of the right to the code.⁹⁰ Servers are owned by the developers due to their nature as computer programs, which are protected as Intellectual Property under copyrights.⁹¹

The virtual land in Second Life, for example, is accessible to users through the granting of a limited license.⁹² This license, known as the virtual land license, grants a user permission to access and use features of Second Life associated with the virtual unit(s) of space.⁹³ Users are also allowed to restrict and allow access, use, and possession of their virtual land, a legal agreement recognised in the real world as sub leasing. These lands are transferable to users who buy the virtual land and are granted the rights to restrict the rest of the world and develop them. The virtual land license can be paralleled to what we have as a lease, which is the grant, with or without consideration, by the proprietor of the right to the exclusive possession of his or her land, and includes the right so granted and the instrument granting it, and also includes a sub-lease but does not include an agreement for lease.⁹⁴

Permanent fixtures, and improvements on land constitute property as defined in the Constitution of Kenya.⁹⁵ Lawful improvements are improvements on land that increase or improve the value of land in accordance with all applicable law.⁹⁶ In both games and virtual reality, developers provide for, and encourage users to make improvements on their virtual land,⁹⁷ as this increases its value in the virtual world. In virtual land, the owner has the ability to build or place things on his or her own land, while restricting or allowing others to creating, editing or placing objects on the land.⁹⁸

Metaverse, a virtual reality space, depicts this development aspect of virtual land as the process of crafting virtual properties and spaces in a shared digital realm, from creating of virtual buildings, virtual landscapes, and virtual venues within the metaverse.⁹⁹ The value of

⁹⁰ Abramovitch S, Cummings D, 'Virtual Property Law, Real Law', 76.

⁹¹ Article 10, *Agreement on Trade Related Aspects of Intellectual Property*, 15 April 1994, 1869 UNTS 299.

⁹² Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions>, 2022, 3.4.

⁹³ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions>, 2022, 3.4.

⁹⁴ Section 2, *Land Act* (Act No. 6 of 2012).

⁹⁵ Article 260, *Constitution of Kenya* (2010).

⁹⁶ Section 2, *Land Act* (Act No. 6 of 2012).

⁹⁷ Second Life, Land: Okay I have land now what?, <https://secondlife.com/land>, 2022.

⁹⁸ Yee-Fen H, 'Virtual world, virtual land, but real property', *Singapore Journal of Legal Studies*, 2010 <https://www.jstor.org/stable/24870500?seq=2> in December 2010, 317.

⁹⁹ Metaverse Services, https://medium.com/@metaverse_services/metaverse-real-estate-development-a-virtual-land-tour-4dab5dde0e2b#:~:text=The%20process%20of%20developing%20metaverse.and%20venues%20within%20the%20metaverse on August 16 2023 .

one's metaspaces, which is Metaverses' term for virtual space, increases with developments, similar to development of real estate.¹⁰⁰

This similarity in the nature of ownership, control, and improvements of both land and virtual land necessitates the regulation of virtual land as property, in its ownership and transfer, since the user obtains rights in the property that affect him, and other users in real life.

Virtual worlds have goods and personal property that have value.¹⁰¹ Both are regarded as personal property belonging to the avatars in the worlds, which are essentially the users. They are bought, kept and traded within games in order to increase the status of the user's avatar. The need for recognition as property in real life arises from the trading of these items, both goods and land which was earlier discussed, in the real world, in exchange for real money.

The use of real money necessitates the conversation on virtual reality's assets. Real money is used to transact, place value on, and even facilitate the exchange of virtual ownership and possession of virtual assets.¹⁰² Money and its worth is tied to labour. That is, the introduction of money in labour was originally based on the increasing demands of division of labour.¹⁰³

Therefore, the very first price paid before money was gotten was labour. It is labour in itself that improves and accounts for most of an asset's value.¹⁰⁴ To make sense of Adam Smith's argument, and relating it to the essence of this study, users of virtual reality dispel labour in the creation, acquisition, and modification of their virtual assets in virtual reality. It is through their labour, and the time spent that results in the real-world valuation of their virtual items.¹⁰⁵ The characteristic purpose of money is to serve as capital,¹⁰⁶ and through the use of real money in transaction of virtual assets, they essentially should be recognised as a user's capital, which are legally accorded property protection in the real world.¹⁰⁷

Virtual property would not need to be regulated as property in the real world if all its transactions were confined in the virtual space. The extension of the commoditization into the real world, with users trading and exchanging virtual property for real value has inadvertently brought about real-world implications, necessitating the need for recognition and

¹⁰⁰ Lal Rebecca, 'A guide to real estate development' Idea Usher, <https://ideausher.com/blog/metaverse-real-estate-development>, 2023.

¹⁰¹ Brown P, Raysman R, 'Property Rights In Cyberspace Games and Other Novel Legal Issues in Virtual Reality', 89-90.

¹⁰² Andrew E. Jankowich, 'Property and Democracy in Virtual Worlds', 183.

¹⁰³ Gronow J, *John Locke, Adam Smith and Karl Marx's Critique of Private Property*, 3ed, Brill Academic Publishers, Leiden, 2016, 236.

¹⁰⁴ Kariuki F *et al*, *Property Law*, 41.

¹⁰⁵ Brown P, Raysman Richard, 'Property Rights in Cyberspace Games and other Novel legal Issues in Virtual Property', 93.

¹⁰⁶ Gronow J, *John Locke, Adam Smith and Karl Marx's Critique of Private Property*, 229.

¹⁰⁷ Article 191 (3)(c)(iii), *Constitution of Kenya* (2010).

regulation.¹⁰⁸ However much the discussion around the pecuniary nature and value of virtual assets is pro- recognition, it brings about the user interests, which clashes with those of the developers forming this study's core argument, as will be discussed later in this chapter.

Developers of virtual worlds own the intellectual property rights in the worlds they create, including trademarks for their worlds, and copyrights in the creations within the virtual world. These rights are recognised as belonging to the developers due to the subject matter that is the virtual worlds they create. Virtual worlds are essentially computer programs which are object codes and source codes. These codes are protected as copyrightable material, thus granting their owners the rights.¹⁰⁹ These intellectual property rights are often stipulated in, and granted to the developers in the End-User License Agreements that they provide to users before granting them access to their virtual worlds.¹¹⁰ That is, developers recognise themselves as the owners of the intellectual property rights in the virtual worlds they have created. This is probably to quash any future claims of ownership of any kind of intellectual property rights by users, while indirectly and unconscionably asking the licensees of the virtual worlds to relinquish their rights, as earlier discussed in the unconscionability of EULAs and TOS agreements. Some developers like Second Life have however granted intellectual property rights to the users, for their creations within the virtual worlds.¹¹¹ This recognition of users' intellectual property rights further posits the need to draw parallels between virtual assets and property as recognised and understood in Kenya, in the making of a case for regulation of virtual assets as property.

Virtual assets are tradable due to the fact that they have value, and virtual worlds have virtual currencies with which the users use as a unit of exchange. Virtual currencies are earned in the games, and the virtual worlds, and thereafter can be used by users to transact. This means that virtual worlds essentially have economies. Virtual currencies have been used to form the basis of valuing assets using real money. Users use real money to improve their avatars in the

¹⁰⁸ Abramovitch S, Cummings D, 'Virtual Property Law, Real Law', 73.

¹⁰⁹ Section 2, *Copyright Act* (Act No. 12 of 2012); Article 10, *Agreement on Trade Related Aspects of Intellectual Property*, 15 April 1994, 1869 UNTS 299.

¹¹⁰ Garlick M, 'Player, Pirate or Conducer? A consideration of the Rights of Online Gamers', 422.

¹¹¹ Press Release, "Second Life Residents to Own Digital Creations" Linden Lab, <https://creativecommons.org/2003/11/14/secondliferesidentstoowndigitalcreations/> 14 November 2003.

virtual world.¹¹² This is yet again, another virtual world feature of assets transcending into our real world and having real effects.

3.2.2 Dissimilarities between virtual assets and property as defined in the *Constitution of Kenya, 2010*.

study Although this study has fairly assessed the arguments geared towards granting of property rights to users of virtual reality with their virtual assets, a core element lacks, thereby creating an impossibility of granting these rights. In game and virtual reality assets are licensed to the users based on the EULAs entered into. The nature of interests arising from these spaces and licenses make it impractical to create a legal regime around the assets alongside regarding them as property. The fundamental problem lies in the fact that despite a user being granted property rights, the assets are created, and stored in the developers' servers.¹¹³ The question of clashing interests arises since the developers still maintain the freedom to use, dispose, and close their servers, as they are property belonging to them. Aside from looking into freedoms of the developers, a server can crash, or be hacked and destroyed by third parties. The loss will be experienced by the developers, as it is their property that has been destroyed. In these two instances, there exists the question of what happens to the users' property?

Property rights in the virtual assets cannot be granted to the users if their interests in such are unable to be protected by law. In the event of any of the afore mentioned scenarios, it is impossible to consider user interests, in the example of SecondLife; 1. The developer grants a user a license to access the virtual spaces, its contents, and interaction with other users.¹¹⁴ This implies that despite users having assets with similarities to real property, it is granted on a license to use basis, thus the license acts as an access tool for users into the space; 2. The developer indemnifies themselves from any guarantee or warranty of compensable value arising from the service they provide.¹¹⁵

This means that no value, either expressed or implied is guaranteed or warranted with respect to any content, including virtual tender or any other virtual goods and services. The indemnification is backed by the fact that the value of virtual assets discussed in this study arise not from the developers, but from the interaction of users who choose to transact their assets, and by virtue of markets, and the laws of demand and supply, value arises. The effect

¹¹² Brown P, 'Property Rights In Cyberspace Games and Other Novel Legal Issues in Virtual Reality', 93.

¹¹³ Second Life Terms and Conditions, <https://lindenlab.com/legal/second-life-terms-and-conditions> , 2022, 3.4.

¹¹⁴ Second Life Terms of Service, <https://lindenlab.com/tos#section2> , 2022, 2.2.

¹¹⁵ Second Life Terms of Service, <https://lindenlab.com/tos#section2> , 2022, 9.2.

of this realisation is the need for acceptance by the users that their actions to trade virtual assets; 1. Beyond the confines of the EULAs and TOS agreements they are bound to; 2. Contrary to the guidelines provided for in the agreements barring the trading of the assets outside of the provided platforms with the systems already in place means that they cannot fairly demand property protection and recognition from the developers, or at the very least, against them.

3.3 Conclusion

This chapter has explored the intriguing parallels between in- game and virtual reality assets and the concept of property as defined in the constitution of Kenya. The similarities between ownership of virtual assets, and real property - from ownership, leasing, sub- leasing, and the pecuniary nature of capital – indicate that there are more similarities between in- game and virtual reality assets and real property. This property ownership is separate from the already recognised, and protected intellectual property rights which primarily rest on the owners of the codes that create these virtual worlds.

There are, however, notable dissimilarities between virtual reality assets and real property. The very first notable difference is in the absoluteness of ownership between the two. The former is currently granted through a license agreement, therefore curbing the opportunity for absolute ownership. It is also difficult in solving this problem as absoluteness of ownership of virtual reality assets would mean transfer of ownership of the code, and servers related to a user's virtual assets. This would not only lead to high inefficiencies but also impede the maintenance of these virtual reality spaces, thus rendering it impractical.

The second problem stems from the first through the clashing of developer and user interests. This chapter has shown how it is impractical to grant property rights in virtual assets to the users, as they will have no legal protection of their interests. This lies in the fundamental fact that these assets lie in the servers which belong to the developers. The developers maintain their property rights in the servers, and based on the EULAs provided to the users, indemnify themselves of any guarantees or warranties arising from the use of their spaces. The chapter's two scenarios of how servers could be affected clearly depicts the difficulty of granting users' property rights in their virtual assets.

From the analysis done in this chapter, it is accurate to conclude that there are similarities and dissimilarities between virtual assets and property as understood and defined in Kenya. The dissimilarities are central in the recognition and granting of property rights in virtual assets, making it impractical to grant in- game and virtual reality assets property rights in Kenya.



CHAPTER FOUR: ASSESMENT OF A COMPLIMENTARY FRAMEWORK OR VIRTUAL PROPERTY REGULATION BETWEEN CHINA AND THE USA AND THE POTENTIAL IMPACT OF REGULATING IN- GAME AND VIRTUAL REALITY ASSETS WITH THE PROPERTY LAWS OF KENYA

4.1 Introduction

This chapter will seek to discuss regulation of virtual assets in China and the USA, with the two jurisdictions complimenting each other. The chapter will highlight decisions by courts in China, and assess litigations in the USA, in the assessment of their frameworks. It will thereafter highlight potential impact of regulation of virtual assets in Kenya.

Regulation of virtual assets is a need based on the fact that virtual reality is a vastly growing space in this digital era, which cannot be ignored, or stay unregulated. The space's growth means that more interests affect more parties who have to be protected by regulations, in order to maintain the virtual worlds, and their economies that have effects in the real world. One factor necessitating regulation of virtual assets is the constant growth of their monetary value.¹¹⁶ This approach fostering the regulation of virtual assets is sound and concurs with the economic theory of property and its justification. This is beneficial to all parties involved in this realm, as it gives benefit to; the users - for their creation through avatars -¹¹⁷. Developers are also beneficiaries as they get protection for the spaces and worlds they create services they provide to the users whereas governments benefit as they have a regulatory function in addition to their revenue collection through taxation of transactions.

4.2 Regulation of virtual property in China

China is a huge market for virtual reality, as of 2023 November, China's revenue arising from virtual reality this year was estimated to be around eight-hundred and ninety- six billion US Dollars.¹¹⁸ This amount of revenue substantiates the economic attributes of virtual reality assets and the perspective taken by the People's Court of China justifying why virtual assets should be classified as property.¹¹⁹

¹¹⁶ Dong K, 'Developing a Property Law Regime' 105 *Cornell Law Review* 6, 2020, 1750.

¹¹⁷ Moringiello J, 'What Virtual Worlds Can Do For Property Law' 62 *Florida Law Review* 1, 2010, 160.

¹¹⁸ Statista, VR Software – China, <https://www.statista.com/outlook/amo/ar-vr/vr-software/china> , November 2023.

¹¹⁹ Park D, 'China Court says Virtual Assets Legally Protected as Property', <https://forkast.news/china-court-virtual-asset-legal-properties/#:~:text=Image%3A%20Envato%20Elements-.Virtual%20assets%20remain%20legal%20property%20protected%20by%20law%20in%20China.Supreme%20People's%20Court%20of%20China> , 4 September 2023.

The question of virtual assets was first dealt with in a case where an applicant's virtual property was taken by a third party after his account was hacked. The lower court directed that the developer, the defendant, had a contractual obligation to restore the property back to the applicant, a decision that was affirmed by the court of appeal.¹²⁰

As much as the court's decision was guided by contract principles and obligations arising due to the contract between the developer and the user, it was guided in order to protect a distinct property right, which is the ownership.¹²¹ The court reasoned that since both parties entered into both EULA and TOS agreements, the developer had a contractual obligation to ensure that the plaintiff enjoyed the use of the virtual space, which included protection of his assets within the game.

Three years later, another landmark case emerged where a worker of a Virtual Reality developer stole virtual assets from users' account and sold them to make profit. Chen Xiao Fan, the accused, was criminally charged with theft of virtual goods.¹²² This, similar to the previous case, was without reference to specific laws on virtual assets, with the courts drawing inference from the assets' economic value.

China later included virtual assets as part of property in their statute. In the General Provisions of the Civil Law, China provides for the protection of people's property rights.¹²³ The statute thereafter provides for the protection of data and online virtual assets.¹²⁴ The attribution of property rights to virtual assets in the General Provisions of Civil Law accorded users of virtual reality property rights such as ownership, transferability and exclusivity as highlighted in chapter two of this study. The difference between ownership of virtual property and traditional understanding of the ownership of property lies in the tangibility aspect.

The legal recognition was a response aimed at protecting citizens' legitimate interests in the virtual assets they owned. Recognition of ownership and disposal rights of virtual property also plays a role in the protection of inheritance rights of heirs to property owned by their deceased, and when related rights are violated, measures such as reporting, claiming, and

¹²⁰ *Li Hongchen v. Beijing Arctic Ice Technology Development Company* (2003), Beijing Second Intermediate Court of China (unreported).

¹²¹ Fairfield J, 'Virtual property', 1089.

¹²² *Chen Xiao Fan*, Guangzhou Tianhe District Court of China (unreported).

¹²³ Article 113, *General Provisions of the Civil Law*, (Order No. 66 of the President of the People's Republic of China of 2017).

¹²⁴ Article 127, *General Provisions of the Civil Law*, (Order No. 66 of the President of the People's Republic of China of 2017).

division of the property can be taken in accordance with the law, while preventing illegal infringement by others.¹²⁵

Despite being a progressive step towards the realisation of the digital age and economy of China, the provision is limited on two fronts; 1. The provision refers to other laws and recognition for the enforcement, meaning that final judgement on matters virtual property is dependent on other regulations which are yet to be put in place, thereby leaving a lacuna;¹²⁶ 2. The legislators, and judicial system are yet to create a distinction between developer interests, and user interest, a dilemma which as long as it is unresolved, attribution of property rights to virtual assets remain impractical.

This was primarily geared towards the criminalization of the theft of virtual assets in order to protect victims of theft and cyber-attacks,¹²⁷ a move similar to countries in the Asian region, which can be directly linked and attributed to the high number of users in the region.¹²⁸ The criminalization of theft of virtual assets is a step towards the realisation and granting of property rights to virtual assets.

4.3 Regulation of virtual property in the USA

An attempt to ascertain whether in game assets can be considered, treated as property, and subjected to property laws was made in the United States in the case of Bragg v Linden Research Incorporated, in a district court of Pennsylvania.

In this case, the claimant was a user of Linden Lab's SecondLife, a virtual reality space. In 30th of April 2006, the claimant acquired a parcel of land named 'Taessot'. The defendant emailed him notifying him that the parcel of land had been improperly purchased through an exploit. The defendant then went on to take away the virtual land from the claimant, and thereafter froze his account. This meant that they confiscated all the virtual assets and currency that he had maintained in the account.¹²⁹

The case, however, bore no fruit as the matter was settled out of court.¹³⁰ An argument can be made that the defendants opted to settle out of court due to the complainant's nature of the claim, and high chances of winning the case. This was also coupled with the fact that the

¹²⁵ Hao J, 'Analysis of the Regulations on Data and Virtual Property in the 'Civic Code'' *Social Science Research Network*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3836570 on 5 May 2021.

¹²⁶ Jianhua C, Keke W, 'Re- discussion on the Legal Attributes of Data – Comments on Article 127 of the Civil Code', 32 *Journal of Chongqing University of Postsand Telecommunications* 5, 2020, 68.

¹²⁷ Fairfield J, 'Virtual property', 1084.

¹²⁸ Abramovitch S, Cummings D, 'Virtual Property, Real Law', 78.

¹²⁹ Bragg v Linden Research Incorporated, United States District Court for the Eastern District of Pennsylvania, Casetext, <https://casetext.com/case/bragg-v-linden-research>, 2024.

¹³⁰ Bragg v Linden Research Incorporated, United States District Court for the Eastern District of Pennsylvania, Lexis-Nexis, <https://www.lexisnexis.com/community/casebrief/p/casebrief-bragg-v-linden-research-inc.>, 2007.

developer had recently granted property rights to their users in their new EULAs and TOS agreements.¹³¹ There is no regulatory approach towards virtual assets in the United States, despite it being home to most of the largest virtual reality service providers in the world. The significance lies in the Bragg litigation where it is evident that the claimant had a viable case before the district court based on the developer's duties and obligations owed to the plaintiff. Although virtual assets are not granted property rights, the duty owed by the developer to protect user interests forms the basis for the framework to be suggested in this chapter.

In this case it is important to note that the issue at hand was on hacking of the system Linden was offering for virtual reality, this would have expectedly had a domino effect of the court having to answer questions related to ownership of property in the space. Undeniably, that was a chance for the creation and building of jurisprudence around this matter. Perhaps the fact that the matter was settled out of court may allude to the confirmation that there is in fact a legal problem and questions to be answered on matters of property in virtual reality.

Having looked into the regulation of virtual assets in China and the USA, this chapter will now look into the impact of regulation of virtual assets in Kenya, and the different parties involved.

4.4 Regulation for consumer protection

The *Constitution of Kenya, 2010*, provides for rights of consumers and the protection of their economic interests among other rights.¹³² Parliament is mandated to provide for enactment of legislation that provides for this consumer protection.¹³³ In virtual reality, the users of these virtual spaces and owners of virtual assets are the consumers.

Regulating virtual assets as property in Kenya ensures that users are not subjected to the unconscionable contracts that are End-User License Agreements and Terms of Service agreements.¹³⁴ The unconscionability of these contracts primarily arises in the developer's failure to recognise and relinquish property rights to their users. Similar to the Labour theory of property, users invest time and real money in their virtual worlds, and in the acquisition of

¹³¹ Bragg v Linden Research Incorporated, United States District Court for the Eastern District of Pennsylvania, Lexis-Nexis, <https://www.lexisnexis.com/community/casebrief/p/casebrief-bragg-v-linden-research-inc.>, part B, 2007.

¹³² Article 46 (1)(c), *Constitution of Kenya* (2010).

¹³³ Article 46 (2), *Constitution of Kenya* (2010).

¹³⁴ Roquilly C, 'Control Over Virtual Worlds by Game Companies', 667.

their assets so much so that they have interest in the assets.¹³⁵ These investments therefore warrant legal protection which can only arise from regulation of the assets.

Most of the virtual reality developers prohibit the transfer of virtual assets outside the virtual space and for real money. This regulation, which is found in the EULAs, and TOS agreements also forms part of the unconscionability aspect of these contracts. The avatars, weapons, buildings, improvements on land, copyrights, and money in virtual reality are created, and earned by the users through their effort. This therefore means that developers have no right to stop the transfer of these assets beyond the game provided their interests are protected. Most if not all developers hide under the umbrella of intellectual property with the assumption that ownership of the intellectual property in a good or service amounts to ownership of the thing itself.¹³⁶ An assumption that is false.

Users recognise can have their interests in the virtual assets protected unauthorized access, and interference. This protection recognise can at the very least protect users from unauthorized access, and other acts of infringement linked to their virtual assets, from fellow users, and developers. Regulation of virtual assets in this sense extends to laws on cybercrimes since users have a basis for claim and protection.

Regulation of virtual assets from unauthorized access and infringement in Kenya will suffice to protect users from unconscionable contracts that deny them their rights and interests in the virtual assets, and avail to them legal avenues to earn a living from virtual reality through established and recognised trading.

4.5 Impact of regulation on developers

Developers of virtual reality have their interests primarily lying in the Intellectual Property of their creations. They own the particular computer codes that mimic real world characteristics, on which users are able to access. Regulation of virtual assets as property would essentially be of economic value to the developers as they would have different avenues of raising revenue without having to grapple with claims against them by users due to ownership rights of assets. That is, regulation of virtual assets would mean that there exists interests in them, which forms both the protection of virtual assets as property which can be stolen, or illegally infringed upon and a step towards the recognition of virtual assets as property. Whether or

¹³⁵ Brown P, Raysman Richard, 'Property Rights in Cyberspace Games and other Novel legal Issues in Virtual Property', 93.

¹³⁶ Fairfield J, 'Virtual property', 1096.

not a user has property rights in an asset is an easier question to answer once the questions of ownership and interests have been dealt with.

This recognition and regulation may increase corporate liability on the developers, since there is increased liability in the event their servers fail.¹³⁷ They however have the freedom and ability to include a risk disclaimer clause in their EULAs and TOS agreements as this is a risk that can happen to any technology company. Limitation of liability for the loss or destruction of one's property is a concept well known, in example, warnings on parking lots against management's liability in the event of a loss of a belonging in the car.

Absence of a property rights system in virtual assets primarily benefits the developers as their interests in the code, and virtual spaces are respected and protected, with no unconscionable liability lying on them in the event of systemic failures. They also maintain their freedom to transfer or shut down servers without having to compensate affected users, had they been granted property rights in their virtual assets. Protection of virtual assets held by the users will benefit the developers as they will face less legal battles regarding the protection of user assets, since violators of the user's rights will be held liable directly and individually.

4.6. Impact of regulation on the government

The reality of virtual assets, and virtual reality at large is that users earn real money from its trade.¹³⁸ Users pay for access to certain features, which is in essence an investment to their assets. Recognition and regulation of virtual assets therefore means that a legal framework can exist on which the government may be able to regulate virtual reality. Regulation of virtual assets by the government can take different facets, which are all important.

The very first is the government's role in protecting its citizens and granting them their consumer protection rights as mandated by the constitution.¹³⁹ Consumer protection includes having users' get their rights and interests in their virtual assets as well as protection. The latter will be achieved by providing a framework that ensures users' assets are recoverable by law, and the offenders punished.

The government will also benefit from regulation of virtual assets as property by the revenue collected from the transactions involved with virtual assets. Unregulated virtual economies create ambiguity and uncertainty as to the treatment of taxable, real-world income, along with

¹³⁷ Stalmans C, 'More Than Just Games: Virtual Property Rights in Massively Online Games' 12 *Asper Review of International Business and Trade Law* 1, 2012, 219.

¹³⁸ Lastowka G, Hunter D, 'The laws of the Virtual Worlds', 40.

¹³⁹ Article 46 , *Constitution of Kenya* (2010).

the untaxed.¹⁴⁰ It is a core principle of taxation that there should be certainty in the obligations of a taxpayer as to what, when, and where the tax is paid.¹⁴¹ Regulation will therefore allow the government to tap into a rapidly growing industry.

4.7 Implementation under the cybercrimes framework

From the comparative analysis conducted in this chapter, the common factor occurring from the legislation in China and the litigation in the United States of America is the subtle realisation and acknowledgement that there are protectable interests in these virtual assets for their users. The Chinese legislation, like many other Asian countries, was passed as a response to the high number of theft and illegal infringement cases in the region, a problem that will definitely be experienced in Kenya, with the arrival of the technology and interest in the country.

The best approach for Kenya to take in this question of in- game and virtual reality assets regulation is subject the virtual spaces and assets to the Computer Misuse and Cybercrimes Act. These spaces, and assets can be categorized under programs, which are classified as data in the Act.¹⁴²

The protection of virtual assets will be enforced through protection from unauthorized access,¹⁴³ and interference¹⁴⁴ is a step towards building jurisprudence and a property rights system around virtual reality. This will solve the problem of user protection at a foundational level, as technology and the law keeps developing over time. This approach is a mirror of the approach taken in China, a direct solution to the core problem in the field of virtual reality illegal infringement and theft among users.

Although there is no doubt that property rights cannot be granted to virtual assets until the issues of user- developer interests are resolved, prevention of unauthorized access, and interference of virtual assets will fill the gap, resolving one of the biggest problems in the field right now, especially in a third world jurisdiction, where these issues will eventually get to us.

4.8 Conclusion

¹⁴⁰ Mack D, 'iTax: An analysis of the Laws and Policies Behind the Taxation of Property Transactions in a Virtual World' 60 *Administrative Law Review*, 3, 2008, 759.

¹⁴¹ Saleemi N, *Taxation Simplified*, 5 ed, Saleemi publications Limited, Nairobi, 2014, 9.

¹⁴² Section 2, *Computer Misuse and Cybercrimes Act* (CAP 79C).

¹⁴³ Section 14, *Computer Misuse and Cybercrimes Act* (CAP 79C).

¹⁴⁴ Section 16, *Computer Misuse and Cybercrimes Act* (CAP 79C).

Drawing from the cases decided in China, their legislation, and conclusions drawn from the American dispute, it is evident that virtual assets are an important part of economies, and hence the need for regulation arises. It is through regulation that parties involved in virtual asset transactions can be protected, and their interests considered.



CHAPTER FIVE: CONCLUSION

5.1 Introduction

It will also give recommendations on how Kenya can regulate virtual assets, to deal with the developments of technology in the country, and the world at large. This chapter will then conclude the research study.

5.2 Summary of Findings

This study shows that in- game and virtual reality assets cannot be granted property rights in the transactions involved with them, proving the hypothesis to be positive.

5.2.1 Chapter one

Chapter one of the study lay the foundation of the study, looking into the background of the problem, highlighting where it arises, and how it should be included in Article 260 of the *Constitution of Kenya, 2010*. It then went ahead to lay out the research objectives of the study, which were each discussed in subsequent chapters. The economic and labour theories of property informed the justification of the problem in question, and whether virtual assets should be considered as property and regulated in Kenya. In this chapter, a literature review was conducted, highlighting what different authorities have written about on the topic, both for and against the recognition and regulation of virtual assets as property. The chapter concluded with the methodology used throughout the study.

5.2.2 Chapter two

Chapter two analyses the legally relevant features of in- game and virtual reality assets. The first part of the chapter analysed the different laws involved in virtual reality and games, which are laws of contract, intellectual property law, and property law. It thereafter focussed on the legally relevant features tied to the law of property regime namely, the right to ownership focussing on the right to exclude, and the right to transfer. The chapter goes on to analyse legal claims arising from disputes over virtual assets, and showing how virtual assets are more than developers' physical chattel. The chapter concludes by making a case for user protection in the regulation of virtual assets.

5.2.3 Chapter three

Chapter three showed the similarities of in- game and virtual reality assets and property as defined and understood. The understanding relied upon was based on common law and the *Constitution of Kenya, 2010*. The parallels drawn between virtual assets and property in the *Constitution of Kenya, 2010* analyse features that are both similar, and dissimilar from one another. The chapter highlights the key dissimilarity between property and virtual assets which proves the hypothesis of this study.

5.2.4 Chapter four

Chapter four conducted a comparative analysis between China and the USA, in which many cases related to virtual assets have been recorded, adjudicated and in China, legislation done on the same. The reason behind the comparative analysis is to have the two jurisdictions complement each other, as neither was conclusive enough for the study. The chapter assesses the impact of virtual assets regulation on different parties who are; the consumers, developers, and the government. Thereafter, a proposition on a legal framework under computer misuse and cybercrimes within which virtual assets can be protected unauthorized access, and infringement is made.

5.3 Summary of Recommendations

This study makes recommendations to two bodies: the legislature and the judiciary.

5.3.1 Recommendation to the legislative body

The law makers guided by authorities in the field of technology should come up with a legal framework governing virtual reality spaces considering the relationships therein between the different market players. This legislation can be subsidiary and complementary to the provisions preventing unauthorized access, and interference in the Computer Misuse and Cybercrimes Act. This will ensure that as the field of virtual reality and gaming grows in Kenya as its citizens have their interests protected, beyond causing the overall growth of the technological field in the country. This sense of security will encourage user growth in the country, leading to an overall economic benefit arising from the transactions of the virtual assets.

5.3.2 Recommendation to the judicial authorities

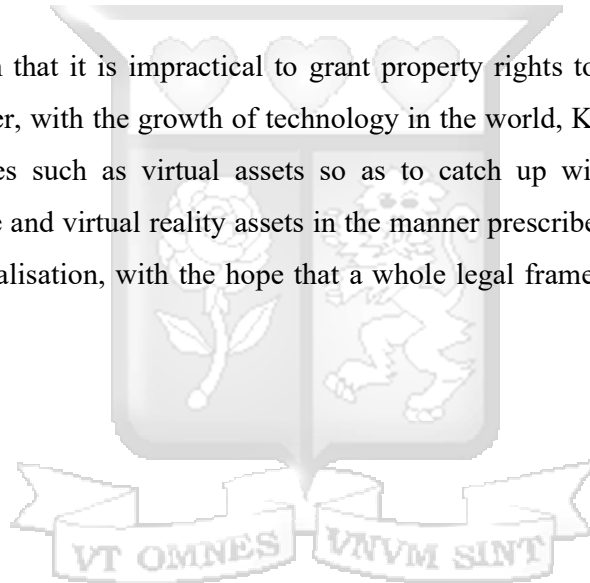
Judicial authorities play a pivotal role in the protection of user interests in virtual assets through their interpretation. This study recommends that the judiciary should adjudicate over

matters regarding virtual assets in a manner that views virtual reality and assets as programs and data respectively, thereby protecting users from unauthorized access, and interference in these spaces. This will help in the building of jurisprudence around matters pertaining virtual assets in the country, as technology and the law develops to fully cater for the same.

Courts in Asia have taken an approach that aligns with their property recognition despite little to no progress in the legislative end of things in their jurisdiction, a step that our judiciary too can take with regards to protection of virtual assets under the computer misuse and cybercrimes act. The judiciary has a duty to protect citizens and ensure the observance of the law. This broader interpretation of laws will facilitate them in conduction their mandate owed to users of games and virtual reality.

5.4 Conclusion

This study has shown that it is impractical to grant property rights to in- game and virtual reality assets. However, with the growth of technology in the world, Kenya ought to put into considerations nuances such as virtual assets so as to catch up with global trends. The regulation of in- game and virtual reality assets in the manner prescribed in this study will be a step towards this realisation, with the hope that a whole legal framework will be built for the same.



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