

Harnessing the Multilateral Patent and Plant Variety Protection Regimes to Advance Food Security: Implications of the EU-ECOWAS Economic Partnership Agreement

Uchenna Felicia Ugwu

A thesis submitted in partial fulfillment of the requirements for the
Doctorate in Philosophy degree in Law

Department of Graduate and Postdoctoral Studies
Faculty of Law, Common Law
University of Ottawa

© Uchenna Felicia Ugwu, Ottawa, Canada, 2020

Abstract

This thesis analyzes the provisions of multilateral, continental and regional intellectual property (IP) and trade agreements to explore whether these provisions advance, or compromise, food security in West Africa. The agreements have been examined for how their provisions integrate IP and food security norms and policies, both within and between different multilateral treaties; and the extent to which the IP frameworks are adaptable to the regional conditions that determine food security in the West African context. In the thesis, food security is viewed as part of the public interest objectives of IP treaties, the human right to food, and the socio-economic rights of international laws, which are relevant in interpreting IP agreements. The method adopted is to examine interfaces among different IP treaties and linkages between regional IP regulation and other rule-based systems, using the principles and tools that international law provides for analyzing relationships between treaties and norms.

Critical analysis is made of a regional agreement signed between the Economic Community of West African States (ECOWAS) and the European Union (EU), the 2014 EU-ECOWAS Economic Partnership Agreement (EPA), to assess what implications the agreement may have for food security in West Africa. Interdisciplinary research is carried out to identify the characteristics needed to advance food security in the region of West Africa. To meet these requirements, philosophical and doctrinal analysis of IP laws and legal theories is conducted to identify which legal principles are best suited for advancing food security in the region. Based on the findings, the thesis draws up a model framework for IP protection that is more suitable for enhancing food security in West Africa.

Table of Contents

ABSTRACT	II
TABLE OF CONTENTS	III
LIST OF TABLES AND FIGURES	VII
LIST OF ACRONYMS AND ABBREVIATIONS	VIII
ACKNOWLEDGEMENTS	X
CHAPTER 1: THE ISSUES CONNECTING INTELLECTUAL PROPERTY AND FOOD SECURITY IN WEST AFRICA	1
1.1 INTRODUCTION	1
1.2 THE RELATIONSHIP BETWEEN INTELLECTUAL PROPERTY PROTECTION AND FOOD SECURITY IN WEST AFRICA	2
1.2.1 <i>Definition of Terms</i>	2
1.2.2 <i>The Influence of IP on Food Security</i>	10
1.2.3 <i>IP and Food Security in the West African Context</i>	17
1.2.4 <i>Relevance of the EU-ECOWAS EPA</i>	20
1.3 THE RESEARCH QUESTIONS	23
1.4 REVIEW OF RELEVANT LITERATURE.....	23
1.5 GAPS IN PREVIOUS LITERATURE AND CONTRIBUTIONS OF THIS RESEARCH	36
1.6 RESEARCH OBJECTIVES	44
1.7 THEORETICAL APPROACHES	45
1.7.1 <i>Instrumentalist Theory of IP</i>	46
1.7.2 <i>The Differentiation Principle: a Tool for Instrumentalist Application of IP Laws and Policies</i>	49
1.7.3 <i>Research Methods and Methodology</i>	55
CHAPTER TWO: MULTILATERAL REGULATION OF IP AND FOOD SECURITY APPLICABLE TO WEST AFRICA	59
2.1 RELEVANCE OF THE MULTILATERAL FRAMEWORK	59
2.2 FOOD SECURITY (FS) IN MULTILATERAL IP AGREEMENTS	60
2.2.1 <i>The Paris and Berne Conventions, and the WTO-WIPO Agreement</i>	60
2.2.2 <i>The WTO-TRIPS Agreement</i>	66
2.2.3 <i>The WTO Doha Declaration</i>	72
2.2.4 <i>The WIPO Development Agenda</i>	79
2.2.5 <i>The International Convention of the Union for the Protection of New Varieties of Plants (UPOV) Agreement</i>	80
2.3 PROVISIONS FOR FOOD SECURITY IN NON-IP BASED INTERNATIONAL LAW AND AGREEMENTS	83
2.3.1 <i>The CBD and the Nagoya Protocol</i>	83
2.3.2 <i>The International Treaty on Plants and Genetic Resources (ITPGRFA)</i>	86
2.3.3 <i>Treaties Regulating Sustainable Development</i>	93
2.3.4 <i>General Human Rights</i>	98
2.3.5 <i>The Right to Development</i>	103
2.3.6 <i>The 2018 UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP)</i>	106
2.4 ADDRESSING CONFLICTS BETWEEN MULTILATERAL LAWS REGULATING IP, TRADE AND FOOD SECURITY	109
2.4.1 <i>General International Law</i>	111

2.4.2	<i>Systems Theory</i>	126
2.4.3	<i>General International Law for Integration, Conflict of Norms</i>	127
2.4.4	<i>Conflict of Norms and Hierarchical Regimes: Lex superior (relations between rules at different hierarchical levels)</i>	130
2.4.5	<i>Autonomous Systems requiring Substantive Integration</i>	131
2.5	AFRICA'S NEED FOR A <i>SUI GENERIS</i> FRAMEWORK.....	132
2.6	CONCLUSION.....	134
CHAPTER 3: INTEGRATING FOOD SECURITY IN WEST AFRICA'S IP RELATED REGIONAL AND CONTINENTAL TRADE AGREEMENTS		139
3.1	INTRODUCTION	139
3.2	RELEVANCE OF REGIONAL IP REGULATION	140
3.2.1	<i>Definition and Scope of Regional Regulations</i>	141
3.2.2	<i>Provisions for Regional IP Regulation under the WTO</i>	142
3.2.3	<i>Characteristics of Regional Agreements Tools for Differential Treatment</i>	143
3.3	IMPORTANT CONSIDERATIONS AFFECTING IP AND FOOD SECURITY IN THE WEST AFRICAN REGION..	147
3.5	THEORIES AND PRINCIPLES GOVERNING REGIONAL IP REGULATIONS.....	152
3.5.1	<i>Functionalist Approach to Intellectual Property</i>	152
3.5.2	<i>Differentiation as a Legal Tool for Harnessing Regional IP Regulations to Support Food Security</i> ..	153
3.5.3	<i>The Relationship between Multilateral and Regional IP and Trade Agreements</i>	154
3.6	PROVISIONS AFFECTING FOOD SECURITY IN CONTINENTAL AND REGIONAL AGREEMENTS APPLICABLE TO WEST AFRICA	157
3.6.1	<i>The African Regional Intellectual Property Organisation's (ARIPO) Arusha Protocol</i>	157
3.6.2	<i>The African Intellectual Property (OAPI) Revised Bangui Agreement</i>	162
3.6.3	<i>The Pan African Intellectual Property Organization (PAIPO)</i>	166
3.6.4	<i>The Swakopmund Protocol</i>	170
3.6.5	<i>The Cotonou Agreement</i>	174
3.6.6	<i>The African Growth and Opportunities Act (AGOA)</i>	182
3.6.7	<i>The African Continental Free Trade Area Agreement (AfCFTA)</i>	187
3.6.8	<i>The African Model Law</i>	193
3.7	IMPLICATIONS OF REGIONAL IP AND TRADE REGIMES FOR FOOD SECURITY IN WEST AFRICA.....	196
3.8	CONCLUSION AND KEY FINDINGS.....	203
CHAPTER 4: THE EU-ECOWAS EPA AND FOOD SECURITY IN WEST AFRICA		210
4.1	BACKGROUND.....	211
4.2	EPA PROVISIONS ON INTELLECTUAL PROPERTY PROTECTION	218
4.2.1	<i>EPA Provisions Referring to IP</i>	218
4.2.2	<i>EPA Provisions on Previous IP and Trade Treaties</i>	223
4.2.3	<i>EPA Provisions on Areas that are Subject to IP Protection</i>	230
4.2.4	<i>EPA Provisions on Integrating IP Rules, Innovation and Traditional Knowledge</i>	232
4.3	EPA PROVISIONS RELEVANT TO FOOD SECURITY	234
4.3.1	<i>Objectives and Principles</i>	234
4.3.2	<i>Procedural and Substantive Provisions</i>	240
4.4	IMPLICATIONS OF THE EPA FOR FOOD SECURITY IN THE REGION OF WEST AFRICA	251
4.4.1	<i>Reduced Agricultural Production in West Africa</i>	252
4.4.2	<i>Trade Diversion</i>	252
4.4.3	<i>Lower Consumer Prices and Income Losses</i>	255
4.4.4	<i>Reduced Intra-Regional Trade</i>	258
4.4.5	<i>Narrower Scope for Special and Differential Treatment and Less Flexibility</i>	260

4.4.6	<i>Forcing Similar Conditions on Different Parties</i>	264
4.4.7	<i>Lack of Provisions for Local Capacity Building</i>	266
4.5	RELATIONSHIP BETWEEN EPA AND OTHER REGIONAL AND MULTILATERAL IP AND TRADE AGREEMENTS	268
4.5.1	<i>The WTO Agreements</i>	268
4.5.2	<i>The Cotonou Agreement</i>	270
4.5.3	<i>Bilateral EPAs in West Africa</i>	272
4.5.4	<i>The UPOV</i>	275
4.5.5	<i>The CBD, ITPGRFA and African Model Law</i>	277
4.6	CONCLUSION AND RECOMMENDATIONS	281
CHAPTER 5: A MODEL FRAMEWORK FOR IP PROTECTION TO ENHANCE FOOD SECURITY IN WEST AFRICA		284
5.1	INTRODUCTION	284
A FOOD SECURITY FRIENDLY MODEL IP FRAMEWORK FOR WEST AFRICA: PRINCIPLES.....		288
TYPE I: SUBSTANTIVE PRINCIPLES APPLICABLE IN DOMESTIC LAW		292
5.2	PROTECTION OF SMALLHOLDER FARMERS, SUBSISTENCE AGRICULTURE AND TRADITIONAL KNOWLEDGE	292
5.2.1	<i>Advance “ownership” to include farmer’s rights and traditional knowledge</i>	293
5.2.2	<i>Do not subject farmers’ rights to PBRs</i>	296
5.2.3	<i>Provide exceptions to PBRs to increase biodiversity</i>	297
5.2.4	<i>Patent exhaustion to occur with first time sale (of seeds or genetic resources)</i>	299
5.2.5	<i>Define innovation to advance informal inventions, technology transfer and capacity building</i>	302
5.3	ALLOW GREATER FLEXIBILITY IN DIFFERENTIAL IP PROVISIONS FOR LDCs AND DEVELOPING COUNTRIES.....	305
5.3.1	<i>Maintain balancing of interest regulations</i>	306
5.3.2	<i>Legislate exceptions and limitations to patents and PBRs for food security purposes</i>	307
5.4	ADOPT A PRO-DEVELOPMENT APPROACH TO IP PROTECTION	309
5.4.1	<i>Recognize development objectives of IP at par with trade objectives</i>	310
5.4.2	<i>IP Provisions should support sustainable development goals</i>	311
5.4.3	<i>Require IP regulations to support public health</i>	312
5.4.4	<i>Reject ‘one size fits all’ approach to IP and trade regulations</i>	313
5.4.5	<i>Provide exceptions and limitations to patents and PBRs for food security</i>	314
5.4.6	<i>Provide sui generis IP regulations under Articles 7-8 & 27.3(b) TRIPS and Article 5 of the Doha Declaration</i>	316
5.5	RECONCILE IP PROTECTED BIOTECHNOLOGY AND LOCAL AGRICULTURAL INVENTIONS IN WEST AFRICA	317
TYPE II: POLICY PRINCIPLES APPLICABLE IN GLOBAL AND REGIONAL IP REGIMES.....		324
5.6	MAINTAIN NATIONAL POLICY SPACE	324
5.6.1	<i>Adopt principle of national sovereignty</i>	326
5.6.2	<i>Establish sui generis IP systems</i>	328
5.6.3	<i>Holistic interpretation of IP regulations in the context of other treaties relating to human rights, sustainable development, plants and genetic resources</i>	328
5.7	SUPPORT INTRA-REGIONAL TRADE MORE THAN MULTILATERAL TRADE.....	329
5.7.1	<i>Strengthen regional IP Institutions and reduce trade barriers within West Africa</i>	331
5.7.2	<i>Reduce overlapping laws and multiplicity of regulations</i>	333
5.8	REQUIRE CONTEXTUALIZATION AND GREATER DIFFERENTIATION IN REGIONAL IP STANDARDS	334
5.8.1	<i>The economic capacity of a country should determine its IP obligations</i>	335
5.8.2	<i>Maintain the differentiation principle</i>	335

5.9	ADOPT A FUNCTIONALIST APPROACH TO IP PROTECTION	337
5.9.1	<i>Balancing of interest regulations</i>	338
5.9.2	<i>Increase the regional value chain</i>	339
TYPE III: NEGOTIATION AND MITIGATION PRINCIPLES.....		341
5.10	DEVELOP TRANSPARENT AND INCLUSIVE NEGOTIATION PROCESSES.....	341
5.11	COMPATIBILITY AND SUSTAINABILITY OF THE MODEL FRAMEWORK	344
5.12	CONCLUSION.....	346
CHAPTER 6: CONCLUSION		348
6.1	INTRODUCTION	348
6.2	THE NATURE OF IPRs: IMPLICATIONS FOR FOOD SECURITY IN THE WEST AFRICAN CONTEXT	351
6.2.1	<i>Key Findings</i>	351
6.2.2	<i>Inferences</i>	353
6.3	SCOPE FOR FOOD SECURITY PROTECTION IN MULTILATERAL IP AND NON-IP TREATIES APPLICABLE TO WEST AFRICA.....	355
6.3.1	<i>Key Findings</i>	355
6.3.2	<i>Inferences</i>	356
6.4	WEST AFRICA’S RTAs: IMPLICATIONS FOR FOOD SECURITY IN WEST AFRICA	358
6.4.1	<i>Key Findings</i>	358
6.4.2	<i>Inferences</i>	360
6.5	THE TRIPS-PLUS NATURE OF THE EPA: IMPLICATIONS FOR WEST AFRICAN FOOD SECURITY	362
6.5.1	<i>Key Findings</i>	363
6.5.2	<i>Inferences</i>	365
6.6	A MODEL IP FRAMEWORK FRIENDLY TO FOOD SECURITY IN WEST AFRICA	366
BIBLIOGRAPHY		369

List of Tables and Figures

Table 1 Comparative Analysis of the Level of Adoption of Multilateral Food Security Flexibilities in West Africa’s Regional Agreements	202
Table 2 Model Framework for IP Protection to Advance Food Security in West Africa	291
Figure 1 Summary of Model Framework	368

List of Acronyms and Abbreviations

ABS	Access and Benefit Sharing
ACP	African, Caribbean and Pacific Countries
AFCFTA	African Continental Free Trade Agreement
AGOA	African Growth and Opportunity Act
ARIPO	African Regional Intellectual Property Organization
AU	African Union
BTA	Bilateral Trade Agreement
CBD	Convention on Biological Diversity
CIPR	Commission on Intellectual Property Rights
DSB	Dispute Settlement Body
DSU	Dispute Settlement Understanding
E&L	Exception and Limitation
EBA	Everything but Arms
ECOWAS	Economic Community of West African States
EPA	Economic Partnership Agreement
EU	European Union
FAO	Food and Agriculture Organization
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GM	Genetically Modified
GMO	Genetically Modified Organism
GR	Genetic Resources
GSP	General System of Preferences
HR	Human Right
ICESR	International Covenant on Economic, Social and Cultural Rights
ICTSD	International Centre for Trade and Sustainable Development
iEPA	Interim Economic Partnership Agreement
ILC	International Law Commission
IP	Intellectual Property
IPR	Intellectual Property Right
ITPGRFA	International Treaty on Plant and Genetic Resources for Agriculture
LDC	Least Developed Country
MAN	Manufacturers Association of Nigeria
MAT	Mutually Agreed Terms
MDG	Millennium Development Goal
MFN	Most Favored Nation
MMT	Million Metric Tons
MNC	Multi-national Corporation
NT	National Treatment
OAU	Organization of African Unity
OAPI	<i>Organisation Africaine de la Propriete Intellectuelle</i> (English: African Intellectual Property Organization)

OCHA	Office for the Coordination of Humanitarian Affairs
OECD	Organization for Economic Co-operation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
PIC	Prior Informed Consent
PAIPO	Pan African Intellectual Property Organization
PBR	Plant Breeders' Right
PGR	Plants and Genetic Resources
PTA	Preferential Trade Agreement
PVP	Plant Variety Protection
REC	Regional Economic Communities
RTA	Regional Trade Agreement
SDG	Sustainable Development Goal
SDT	Special and Differential Treatment
SERAC	Social and Economic Rights Action Centre
SME	Small and Medium-sized Enterprise
SPS	Sanitary and Phytosanitary Measures
SSA	Sub-Saharan Africa
TBT	Technical Barriers to Trade
TK	Traditional Knowledge
TRIPS	Agreement on Trade Related Aspects of Intellectual Property Rights
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNCESCR	UN Committee on Economic, Social and Cultural Rights (CESCR)
UNCTD	UN Commission on Trade and Development
UNDP	United Nations Development Program
UNDROP	UN Declaration on the Rights of Peasants and Other People Working in Rural Areas
UNECA	UN Economic Commission for Africa
UN-ECOSOC	UN Economic and Social Council
UNESCO	UN Educational, Scientific and Cultural Organization
UPOV	Union for the Protection of New Varieties of Plants
US	United States
USAID	US Agency for International Development
VCLT	Vienna Convention on the Law of Treaties
WIPO	World Intellectual Property Organization
WCT	WIPO Copyright Treaty
WTO	World Trade Organization

Acknowledgements

I wish to acknowledge the financial contributions received from the Centre for International Governance Innovation, Waterloo and the Open African Innovation Research (Open AIR) Project, Ottawa, without which this research would not have been possible. Open AIR is carried out with financial support from the International Development Research Centre, Canada, the Social Sciences and Humanities Council of Canada and the Queen Elizabeth Scholars Program. More information about Open AIR's current and previous supporters can be found at www.openair.africa. The views expressed herein do not necessarily represent those of Open AIR's funders. The University of Ottawa has also provided me funding during the course of PhD research, for which I am extremely grateful.

I must also acknowledge my supervisors, Prof. Chidi Oguamanam and Prof. Jeremy de Beer, whose patience and diligence in helping me improve my research and writing skills, as well as their willingness to offer support when I faced personal (non-academic) challenges, contributed greatly to my completing this work.

This section would not be complete without my acknowledging the contribution of my mentor in intellectual property research, Dr Henning Grosse Ruse-Khan. Your work in IP law has continued to inspire me to reach to higher heights in my academic research. I also wish to acknowledge the help given by Paul Okenne, Mish and Nicole in the final formatting of the thesis. Richard Harkin of the Law library also helped me greatly in obtaining material for my research.

I also wish to acknowledge my family, especially my parents, siblings and sister in laws, for being right by my side and continuing to inspire hope in me. I wish to acknowledge my daughter, Chisom Faith Ugwumadu and my nephews and nieces, because after chatting with them and hearing them laugh, I received new inspiration for research.

Most of all I wish to acknowledge God Almighty, The Holy Spirit, for His divine inspiration and insight in forming my ideas. Thank you Lord for holding my hand at all times.

Chapter 1: The Issues Connecting Intellectual Property and Food Security in West Africa

1.1 Introduction

Since the World Trade Organization's (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)¹ made the protection of plant varieties and connected genetic resources mandatory in international intellectual property (IP) law, the question of how IP protection might impact food security has continued to be discussed. For West Africa, a region currently experiencing high population growth, that has the highest levels of food insecurity in Africa, resolving the issue of how to harness IP regulations to advance food security is very important. The extension of IP protection in the provisions of various regional and continental IP, trade and other agreements related to West Africa in recent years, has made it even more urgent for West Africa to identify how IP rules can best advance food security in the regional context.

This study examines the effect of IP regulations on food security in West Africa. Examination of agreements is conducted at the multilateral, continental and regional levels, as these are likely to influence the development of IP norms affecting food security in the region. Interdisciplinary examination is carried out and legal theories examined to determine the legal theories and principles most capable of supporting food security in West Africa. Based on findings, the thesis goes on to design a model framework for IP regulation more suitable for advancing food security in the region. In this chapter, analysis is conducted in the following steps: key terms utilized in the thesis are defined. Then, an interdisciplinary examination is carried out to determine the conditions necessary for supporting food security in the West African context. Doctrinal

¹ *Agreement on Trade Related Aspects of Intellectual Property Rights*, WTO Members, 15 April 1994, Annex 1C of the Marrakesh Agreement establishing the WTO (entered into force 1 January 1995) [TRIPS].

analysis of relevant agreements and legal theories is carried out to determine the principles most favourable to food security in West Africa. This chapter looks at the relationship between IP and other forms of regulation that affect food security, such as human rights, sustainable development, traditional knowledge and biodiversity; along with the relationship between regulations at the multilateral, continental and regional levels. It attempts to see how the interests of various IP and food security related agreements can be integrated through applying the principles of instrumentalism and differentiation.

1.2 The Relationship between Intellectual Property Protection and Food Security in West Africa

1.2.1 Definition of Terms

a) Food Security: Food security is a multi-faceted concept which has physical, economic, and social features.² These features were clearly highlighted in the 1996 articulation of the World Food Summit, which states that: “Food security, at the individual, household, national, regional and global levels (is achieved) when all people, at all times, have *physical and economic access* to sufficient, *safe and nutritious food* to meet their dietary needs and *food preferences for an active and healthy life.*”³ This definition was further expanded in The State of Food Insecurity (2001) to include “physical, *social* and economic access.”⁴ Basically, four key principles have been identified as necessary for achieving food security. They are: the availability of sufficient

² Food and Agriculture Organization of the United Nations [FAO], *Trade Reforms and Food Security Conceptualizing the Linkages* (Rome: FAO, 2003) at 3 and 25.

³ FAO, *Rome Declaration on World Food Security and World Food Summit Plan of Action*, World Food Summit, 13-17 November 1996, para.1 [emphasis added] [Rome Declaration].

⁴ FAO, *The State of Food Insecurity in the World 2001* (Rome: FAO, 2001) glossary [emphasis added].

quantities of food; accessibility to affordable food; ensuring that food can be utilized by the recipients; and ensuring that food supplies are steady.⁵ The practical implementation of these principles will require improvements in production systems of agriculture, food distribution systems, innovation research systems and the economic empowerment of the individual. As such, food security is associated with concepts like food sovereignty and food justice.

Food justice is the right of communities everywhere to produce, process, distribute, access and eat healthy food regardless of race, class, gender, ethnicity, citizenship, ability, religion, or community (Institute of Agriculture and Trade Policy, IATP). The concept focuses on removing structural inequities that exist within food and economic systems. While food sovereignty describes the right of peoples, communities, and countries to define their own agricultural, labor, fishing, food production, distribution and land policies which are ecologically, socially, economically and culturally appropriate to their unique circumstances. While acknowledging the potential of the concepts for advancing food security in Africa, this study will focus on analyzing ‘food security’ as allowing for a more holistic consideration of issues related to IP protection. The relationship between these concepts and food security is broached below in pages 27-32 of the thesis.

Since multilateral intellectual property (IP) and trade agreements now grant rights to control access to and the prices of seeds, plant varieties, genetic resources and biotechnology, subjects that are important to applying the principles, IP protections will influence food security.⁶

⁵ Lioba Weingartner, “The Concept of Food and Nutrition Security”, in Klaus Klennert (ed), *Achieving Food and Nutrition Security* (Lake Starnberg, Germany: InWent, 2005), 3-26, at 5-6; Hannah Pieters, Andrea Guariso & Anneleen Vandeplas, “Conceptual Framework for the Analysis of the Determinants of Food and Nutrition Security” (2013) *FOODSECURE* Working paper no.13, at 3-4.

⁶ Jane Payumo et al, “Intellectual Property and Opportunities for Food Security in the Philippines” (2013) 21:1 *Michigan State International Law Review* 125; Geoff Tansey and Tasmin Rajotte, eds, *The Future Control of Food* (London: Earthscan, 2008).

b) The Right to Food: Food security is closely linked with the right to food. This is reflected at the international level in the growing number of multilateral human rights agreements that directly and indirectly incorporate food security imperatives. A legal basis for the right to food at the international level can be found in Article 25 of the 1948 Universal Declaration of Human Rights (UDHR), which grants everyone “*the right to a standard of living adequate for the health and well-being of himself and his family, including food...*”⁷ The UDHR does not specifically stipulate a right to food but a right to a standard of living *adequate* for health and well-being, and food security is one of the factors that make up that right.

The nature of food security as part of the right to food is confirmed in Article 11.1 of the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) which recognizes “adequate food” as included in “*the right of everyone to an adequate standard of living for himself and his family.*”⁸ The right to food is described more in General Comment No.12 of the United Nations Committee on Economic, Social and Cultural Rights, which states that “The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement.” The comment emphasizes the multifaceted nature of the right to food, as being influenced by economic, social and economic factors.

As a fundamental human right, the right to food places on countries a legal obligation to protect, execute, and not to interfere with it, by providing the conditions necessary to attaining it. These conditions are mirrored in the concept of food security. Oliver De Schutter, a former UN Special Rapporteur on the Right to Food buttressed this point when he stated that, “the normative

⁷ *Universal Declaration of Human Rights*, GA Res 217 A (III), UNGAOR, 3rd Sess, Supp No 13, UN Doc A/810 (1948) 71 [UDHR].

⁸ *International Covenant on Economic, Social and Cultural Rights*, GA Res 2200A(XXI), 21 UNGAOR Supp No. 16 at 49, UN Doc A/6316 (1966), 993 UNTS 3 [ICESCR].

content of the right to food can be summarized by reference to the requirements of availability, accessibility, adequacy and sustainability, all of which must be built into legal entitlements and secured through accountability mechanisms.”⁹

The right to food is closely related to food security and human rights as was detailed in the Rome Declaration on World Food Security, adopted at the World Food Summit in 1996, which states that an “enabling political, social and economic environment is the essential foundation which will enable States to give adequate priority to food security”, and the “promotion and protection of all human rights and fundamental freedoms, including the right to development, [...] are essential for achieving sustainable food security for all.”¹⁰ This emphasizes that the attainment of civil and political rights, including the right to adequate food, are interdependent on upholding economic, social and cultural rights, such as food security.¹¹

Described in this manner, it is clear that the responsibility of attaining food security does not just lie with the individual.¹² States are required to avoid actions that limit, encroach upon, or fail to fulfill a positive duty associated with the right to food and food security. Article 11 of the ICESCR confirms this obligation as states go beyond recognizing the right of everyone to adequate food and to be free from hunger, and commit to take appropriate steps to ensure the realization of this right, both individually and through international cooperation.¹³ Fulfilling this positive duty would oblige states to put in place structures that support, rather than hinder, access to adequate (qualities and quantities) of affordable food that people can utilize according to their cultural

⁹ Oliver de Schutter, *Report of the Special Rapporteur on the Right to Food*, UNGA-HRC, UN Doc A/HRC/25/57, 24 January (2014), par.2 [Schutter Report 2014].

¹⁰ Rome Declaration, *supra* note 3.

¹¹ Amartya Sen, *Development as Freedom* (New York: Knopf, 1999); See also FAO, *Declaration of the World Summit on Food Security*, World Summit on Food Security, 16-18 November 2009, WSFS 2009/2, para.16.

¹² Oliver Schutter, *Report submitted by the Special Rapporteur on the right to food*, UNGA HRC, 16th Sess, UN Doc. UN Doc A/HRC/16/49 (2010) at 5, Article 9 [Schutter Report 2010].

¹³ ICESCR, Article 11.1-2.

preferences.¹⁴ Though current multilateral IP regulations offer some flexibilities, analysis in chapter two of this thesis demonstrates why these are unsuitable to the West African context.

c) Sustainable Agriculture: As mentioned previously, food security can only be achieved when states implement structures that support, at all times, physical and economic access to adequate food or the means for its procurement. One of such important structures is sustainable agriculture. Sustainable agriculture is the efficient production of safe, high quality foodstuffs in a manner that protects and improves the natural environment; the social and economic conditions of farmers, their employees and local communities; and safeguards the health and welfare of all farmed species.¹⁵

The importance of sustainable agriculture to food security was highlighted by the United Nations (UN) Economic and Social Council (ESC) when it opined that: “[e]nding hunger and malnutrition relies heavily on *sustainable food production systems* and resilient agricultural practices.”¹⁶ It was also affirmed by the United Nations Development Program (UNDP) comments in relation to goal two of the United Nations (UN) Sustainable Development Goals (SDGs),¹⁷ (SDG 2) which aims at ending hunger, achieving food security, improving nutrition and promoting sustainable agriculture. UNDP noted that attaining SDG2 “involves promoting *sustainable agricultural practices*: supporting small scale farmers and allowing equal access to land, technology and markets. It also requires international cooperation to ensure investment in

¹⁴ Schutter Report 2010, *supra* note 12; See Philip Alston & Katarina Tomasevski, *The Right to Food* (Boston: Martinus Nijhoff Publishers, 1984) at 37-48.

¹⁵ Sustainable Agriculture Initiative [SAI] Platform definition; online:< <http://www.saiplatform.org/sustainable-agriculture/definition>>.

¹⁶ The Secretary General, *Progress Towards the Sustainable Development Goals*, UN Economic and Social Council (UNESCO), 2016, UN Doc E/2016/75 (2016).

¹⁷ *Transforming our World: the 2030 Agenda for Sustainable Development*, GA Res A/RES/70/L.1, UNGAOR, 70th Sess, UN Doc A/RES/70/1 (2015) Par.54 [SDGs].

infrastructure and technology to improve agricultural productivity.”¹⁸ Sustainability entails the adoption of technologies that make agriculture resilient to the depletion of resources in the face of population growth; and support biodiverse production, which is more resilient to diseases. This makes it important to define biodiversity, agroecology and biotechnology, areas which can affect food security and can be affected by IPRs.

d) Biodiversity, Agroecology and Biotechnology: Sustainable agriculture is closely linked with ecology, a branch of science that focuses on maintaining the natural interrelationships between plants, animals, and the environment in the form of ecosystems, so as to preserve the distribution and variations of genetic species described as biodiversity.¹⁹ Plants and genetic resources are specifically regulated in international agreements such as the Convention on Biological Diversity (CBD),²⁰ The Nagoya Protocol,²¹ and the International Treaty on Plant and Genetic Resources for Agriculture (ITPGRFA)²² that are linked to food security.

Agroecology is a form of sustainable agriculture which applies natural principles to holistic farming systems that link ecology, culture, economics and society to create healthy environments, food production and communities.²³ According to Article 2 of the 1992 United Nations Convention on Biological Diversity (CBD), biotechnology refers to: “any technological application that uses

¹⁸ SDGs, Goal 2.

¹⁹ Muriel Lightbourne, *Food Security, Biological Diversity and Intellectual Property Rights* (Burlington: Ashgate Publishing, 2009) at 117.

²⁰ *Convention on Biological Diversity*, 5 June 1992, 1760 UNTS 79 (entered into force 29 December, 1993) [CBD].

²¹ *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity*, 29 October 2010, UNTS registration no. A-30619 (entered into force 12 October, 2014) [Nagoya Protocol].

²² *International Treaty on Plant and Genetic Resources for Food and Agriculture*, 3 November, 2001, 2400 UNTS 303 (entered into force 29th June, 2009) [ITPGRFA].

²³ Miguel Altieri, “The Ecological Role of Biodiversity in Agrosystems” (1999) 74:1 *Agriculture, Ecosystems and Environment* 19 at 20-23; Sustainable Agriculture Initiative [SAI] Platform Arable and Vegetable Crops Working Group, *Principles and Practices for the Sustainable Production of Arable and Vegetable Crops* 2009 (2010), online: <www.saiplatform.org/uploads/Modules/Library/pps-arable-vegetable-crops-2009.pdf>.

biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.”²⁴ For communities in West Africa that rely on small scale and subsistence agriculture for food production, traditional non-technological innovation (described here as ‘informal innovation’), and agroecological farming systems, play a more prominent role in sustaining food security than the transfer and application of modern inventions such as biotechnology.²⁵

In modern times, biotechnological techniques have been applied to plant improvement. Through culturing and genetic transfer, desirable traits in a plant can be transferred to other plant species, to produce genetically modified products without the need for pollination. The utility of genetic resources in agriculture depends upon access to the greatest diversity of germplasm. However, the creation of monopoly rights over certain elements of this diversity through intellectual property rights, in the form of patents and plant breeders’ rights (PBR), limits access to biotechnology.²⁶

(e) The General Agreement on Tariffs and Trade (GATT): negotiated in 1947, GATT contains thirty-eight provisions governing trade in goods. Following the superseding of GATT by the WTO in the 1990s, the GATT was formally terminated, and its provisions were incorporated by reference

²⁴ CBD, Article 2.

²⁵ Tania Bubela & Richard Gold, “Indigenous Rights and Traditional Knowledge”, in Tania Bubela & Richard Gold, eds, *Genetic Resources and Traditional Knowledge: Case Studies and Conflicting Interests* (Cheltenham: Edward Elgar, 2012) 31; David Claudie *et al*, “Ancient but New: Developing Locally Driven Enterprises Based on Traditional Medicines in Kuuku I’yu Northern Kaanju Homelands, Cape York, Queensland, Australia”, in Peter Drahos & Susy Frankel, eds, *Indigenous People’s Innovation: Intellectual Property Pathways to Development* (Canberra: ANU Press, 2012) 29 at 36-55; Peter Drahos, “Indigenous Developmental Networks and the Non-Developmental State: Making Intellectual Property Work for Indigenous People without Patents” in Ruth Okediji & Margo Bagley, eds, *Patent Law in Global Perspective* (New York: Oxford University Press, 2014) 287.

²⁶ Michael Halewood & Kent Nnadozie, “Giving Priorities to the Commons: The International Treaty on Plant Genetic Resources for Food and Agriculture” in Geoff Tansey and Tasmin Rajotte, eds, *The Future Control of Food* (London: Earthscan, 2008) 115-140, at122.

into the Marrakesh Agreement establishing the WTO, along with associated understandings, protocols and decisions, as the 'GATT 1994'. Also, the *WTO Agreement on Subsidies and Countervailing Measures* (the SCM Agreement) regulating trade in all goods, including IP protected and agricultural products, elaborate and expand upon the provisions of the GATT. GATT is relevant to IP regulations as the preamble of the TRIPS agreement recognized the applicability of the basic principles of GATT 1994 to the TRIPS agreement.

f) The Agreement on Agriculture (AoA): The Agreement on Agriculture is an agreement of the WTO that contains twenty-one articles and five annexes that establish special rules relating to agricultural products, including subsidies and safeguards for agricultural products.

(g) The World Trade Organization's Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS): The Agreement on Trade-Related Aspects of Intellectual Property Rights contains seventy-three provisions relating to the protection of intellectual property rights. Among other things, it incorporates by reference the obligations contained in certain other pre-existing international treaties on intellectual property rights.

(h) The UPOV Agreement: UPOV is the French acronym for the International Union for the Protection of New Varieties of Plants. UPOV was established by the International Convention for the Protection of New Varieties of Plants ("UPOV Convention"). The UPOV Convention was adopted on December 2, 1961, by a Diplomatic Conference held in Paris. Officially an intergovernmental organization, the UPOV explicitly works for the privatization of seeds by imposing Plant Breeder's Rights.

1.2.2 The Influence of IP on Food Security

Generally, intellectual property rights (IPRs) refers to the authority granted by law to inventors (by patents), authors of literary and artistic works (by copyright), establishers of distinguishing symbols (by trademarks) and other industrial designs, to control and benefit from the creations of their minds.²⁷ IP law grants holder of IPRs exclusive power to own an intangible idea in a manner similar to ownership of physical property. Today the scope of subjects protected by IPRs in contemporary IP agreements has widened considerably to include areas of agriculture essential for food security.²⁸ When applied to reproductive material including seeds and to genetic resources in general, IPRs may affect the accessibility and availability of a large number of agricultural products.²⁹

In relation to food security, by making the knowledge of a seed a form of property, to be owned, IPRs prevent access to genetic resources that are important for sustainable agricultural production.³⁰ IPRs, specifically patents and PBR, grant holders the right to determine the costs of seeds. This may affect the incomes of individual farmers, and their ability to sustain production. The impacts that IPRs may have on food security are demonstrated below in the analysis of two classes of IPR, patents and plant variety protection, forms of IPR affecting agriculture utilized by West African countries.

²⁷ R.S. Khemani & D.M. Shapiro, *Glossary of Industrial Organisation Economics and Competition Law* (OECD, 2002), online at: < <https://stats.oecd.org/glossary/detail.asp?ID=3236>>.

²⁸ Jane Payumo *et al*, “Intellectual Property and Opportunities for Food Security in the Philippines”, *supra* note 6; Susan K. Sell, *Private Power, Public Law: The Globalization of Intellectual Property Rights* (Cambridge: Cambridge University Press, 2003) [Sell, *Private Power, Public Law*].

²⁹ Susan Bragdon, Kathryn Garforth & John Haapala Jr, “Safeguarding Biodiversity: The Convention on Biological Diversity (CBD)” in Geoff Tansey and Tasmin Rajotte, eds, *The Future Control of Food* (London: Earthscan, 2008) 82.

³⁰ Michael Blakeney, *Intellectual Property Rights and Food Security* (Cambridge, USA: CABI, 2009) [Blakeney, IPR and Food Security]; Ram Prasad, U Bagde & Ajit Varma, “An Overview of Intellectual Property Rights in Relation to Agricultural Technology” (2012) 11:73 *African Journal of Biotechnology* 13746.

Impact of different categories of IPR on Food Security

(a) Patents: Patents grant exclusive rights to holders to exclude others from using, replicating or commercializing their invention for a given period of time. At the international level, patent protection is governed by the World Trade Organization's (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS).³¹ Article 27 TRIPS requires that patentable subject matter must be novel, non-obvious (requiring an 'inventive step'), and useful. Patents create exclusive rights for individual rights holders that promote plant varieties that demonstrate uniformity (monocultures), while not protecting traditional farming practices and informal inventions. Patents may negatively impact food security by: limiting farmers from selling, and increasing the costs of, seed and other propagating materials; contributing to the erosion of plant genetic diversity and associated knowledge; impeding the exchange of material and knowledge through informal seed systems; and not sufficiently acknowledging and rewarding the contributions of farmers to the development of new varieties.³²

Seeds that are developed on the farm, using patented varieties as parents, cannot be freely exchanged through farmers' informal networks of seed exchange without the permission of patent holders and, commonly, paying royalties. Farmers are also restricted from combining local and genetically modified varieties to produce brands that are more resilient to local conditions and suited to local preferences.

Hybridization refers to the cross-pollination of two genetically unique parents of the same species to produce a variety (F1) with improved performance, or 'hybrid vigour.'

³¹ *Agreement on Trade Related Aspects of Intellectual Property Rights*, WTO Members, 15 April 1994, Annex 1C of the Marrakesh Agreement establishing the WTO (entered into force 1 January 1995) [TRIPS]. TRIPS is a multilateral agreement regulating trade and IP, that provides minimum standards for IP protection for all WTO member states.

³² Chelsea Smith & Susan H. Bragdon, *The Relationship between Intellectual Property Rights and Small-scale Farmer Innovations*, (Geneva: Quaker United Nations Office, 2016) at 33 [IPRs and Farmer Innovations].

Subsequent cross-pollination among hybrids (F2) yields offspring with inferior performance, necessitating the purchase of new, F1 seeds every season.³³

The parental lines in hybrids are often protected through patents and PBRs. Hybrid crops, together with the use of synthetic fertilizers and farm machinery, are useful for advancing dramatic increases in yield. However, varieties protected by patents are costly and require purchase every season, costs which often make hybrids inaccessible to subsistence farmers in West Africa. Often, the planting of hybrids cannot be successful without the use of fertilizers, which are likewise expensive.³⁴ Thus, patents over hybrids may affect food security as they hinder access to and the exchange of plant genetic material and associated knowledge, and the conservation of agrobiodiversity.

(b) Plant Variety Protection: Plant variety protection (PVP) is an exclusive set of rights over propagating material (including seed, cuttings, divisions, tissue culture) and harvested material (cut flowers, fruit, foliage) for a designated period. PVP is granted for genetically uniform, stable varieties: homogenous varieties with characteristics that remain unchanged after repeated propagation.³⁵ This encourages breeders to eliminate genetic variation within crop varieties to suit market demands. This may affect food security in regions for West Africa where food production relies more on biodiverse varieties and ecological principles. Biodiverse innovation is not encouraged under a PVP system.

PVP can affect food security because farmers are not viewed as being part of the production process, who should share in the benefits and control of plants, but rather as users of genetic

³³ *Ibid*, at 15.

³⁴ *Ibid*.

³⁵ UPOV. Article 8 & 9.

materials who have to obtain permission and even pay for re-sowing seeds harvested from their own farms if they are varieties protected by IP regulation. This is illustrated in Article 15(2) of the UPOV, which limits the ability of farmers to carry out traditional agricultural processes like saving, exchanging and selling of farm-produced plant material, to an optional exception, subject to the breeder's right. UPOV 1991 essentially abandons any practices of exchanging and selling farm-produced seeds according to traditional agricultural practices.³⁶ Because traditional knowledge relating to plants is often undocumented, PVP can be used to misappropriate genetic resources and related traditional knowledge, with little change being made to the original product.

PVP may affect food security by restricting access to seeds in West African countries, characterized by informal seed exchange and heavy reliance on farmer saved seed. The definition of a breeder excludes the protection of varieties developed in collective, informal breeding systems where no 'legal person' is the owner. Also, the conditions for uniformity and stability exclude farmers' varieties, which are heterogeneous and variable, from protection. PVP provides the potential for farmers' to be restricted from selling locally-adapted varieties that have been bred using protected varieties in the future.³⁷

At the international level, IPRs relevant to agriculture are principally governed by two multilateral agreements, namely the World Trade Organization's (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS),³⁸ and the International Convention for the Protection of New Varieties of Plants which was established under the International Union for

³⁶ UNCTAD, *The Convention on Biological Diversity and the Nagoya Protocol: Intellectual Property Implications* (New York: United Nations, 2014) at 37.

³⁷ Smith & Bragdon, IPRs and Farmer Innovations, *supra* note 32, at 18.

³⁸ *Agreement on Trade Related Aspects of Intellectual Property Rights*, WTO Members, 15 April 1994, Annex 1C of the Marrakesh Agreement establishing the WTO (entered into force 1 January 1995) [TRIPS].

the Protection of New Varieties of Plants (UPOV).³⁹ Because the international regime makes the grant of IP protection a prerequisite for participating in global trade organizations like the WTO, IP regulations may also affect trade between countries. IPRs like patents, PBRs and geographical indications, determine the prices of seeds and genetic resources, as well as access to and transfer of agricultural enhancement technologies. Subsequently, they influence the level of development attainable in countries whose firms do not hold large numbers of IPRs.⁴⁰

These linkages create an environment where different rights and interests intersect with and are affected by IPRs. IPRs requires a balance between public and private rights; the economic right of the individual and the general public good; access to knowledge for public learning and innovation and providing adequate incentives for private companies to research and develop new technologies; rewarding innovators without starving a country, by ensuring equitable distribution of benefits.⁴¹ As such, in determining the relationship between IPRs and food security in West Africa, it is important to examine the scope and limitations of pertinent interests, through doctrinal examination of relevant international and regional IP and trade agreements.

A review of contemporary literature reveals diverse views as to whether the grant of IPRs over genetic resources, and plant varieties, will positively or negatively affect food security. Scholars that view IPRs as positively impacting food security,⁴² maintain that the grant of IPRs provides an important incentive for encouraging research and development of genetic modification techniques which have enabled scientists to modify crops to enhance advantageous traits. They

³⁹ *International Convention for the Protection of New Varieties of Plants*, 2 December 1961, as revised at Geneva on 10 November 1972, on 23 October 1978, and on 19 March 1991, 815 UNTS 89 (entered into force 24 April, 1998) [UPOV].

⁴⁰ Miranda Forsyth & Sue Farran, "Intellectual Property and Food Security in Least Developed Countries" (2013) 34:3 *Third World Quarterly* 516; Robin Ramcharan, *International Intellectual Property Law and Human Security* (The Hague, Netherlands: Dordrecht T. M. C. Asser Press, 2013) at 81-93.

⁴¹ Ramcharan, *supra* note 40, at 38-39.

⁴² See Payumo et al, *supra* note 28.

claim that because customized crops, also known as genetically modified organisms (GMO), have the potential to enhance steadfast production of disease resistant, hyper yielding crops with enhanced nutritional value, they can play a significant role in lowering the level of food insecurity in a country.⁴³ Proponents argue that the strengthening of IPRs to protect GMO and other new crop varieties by a developing country will make it more likely to attract trade, investment, and encourage economic growth.⁴⁴ This positive view of IPR is reflected in several studies focusing on Africa, which tout the adoption of stronger IP protection as being essential (in combination with other factors) to overcoming food insecurity challenges in the continent.⁴⁵

In contrast, scholars that view IPRs as negatively impacting food security stress that the exclusive proprietary nature of patents and PBR will reduce the global agricultural commons, and disrupt farmers' ability to own and utilize essential items such as seeds and genetic resources.⁴⁶ They stress that the power granted to IPRs holders to control access to certain products and processes related to agriculture (such as genetically modified seeds and insecticides, plant materials, and biological resources), may negatively affect the ability of small scale farmers to

⁴³ Martin Qaim & Shahzad Kouser, "Genetically Modified Crops and Food Security" (2013) 8:6 *PLoS ONE*; Clive James, "Global Status of Commercialized Biotech/GM Crops: 2011" (2011) *ISAAA Brief* No.43.

⁴⁴ Melanie Wiber, "Intellectual Property Rights and Food Security: the International Legal Battle Over Patenting Staple Crops" in Otto Hospes & Irene Hadiprayitno, eds, *Governing Food Security: Law, Politics and the Right to Food* (Wageningen, The Netherlands: Wageningen Academic Publishers, 2010) 273, 274-275; Kym Anderson, *Agricultural Trade, Policy Reforms, and Global Food Security* (New York: Springer, 2016).

⁴⁵ Calestous Juma, "Feeding Africa: Why Biotechnology Sceptics are Wrong to Dismiss GM", *The Guardian*, (27 May 2014), online: <<https://www.theguardian.com/global-development-professionals-network/2014/may/27/gm-crops-food-security-calestous-juma-africa>>; Ademola A. Adenle *et al*, "Developing GM Super Cassava for Improved Health and Food Security: Future Challenges for Africa" (2012) 1:1 *Agriculture & Food Security* 11; Jennifer G. Cooke & Richard Downie, "African Perspectives on Genetically Modified Crops: Assessing the Debate in Zambia, Kenya, and South Africa" (2010) *CSIS Global Food Security Project Report*, July 2010; Calestous Juma, "Preventing Hunger: Biotechnology is Key" (2011) *Nature* 479.

⁴⁶ Gerard Downes, "TRIPS and Food Security: Implications of the WTO's TRIPS Agreement for Food Security in the Developing World" (2004) 106:5 *British Food Journal* 366 [Downes, TRIPS and Food Security].

access essential resources, increase prices for seeds and other agricultural inputs, destroy local seeds varieties, and create dependence on foreign seed multinational corporations (MNCs).⁴⁷

This lack of consensus amplifies the need for each country and region to find the right balance in IPR regulation and policies that are best suited to its food security needs. This need for contextualization is expanded by Sell⁴⁸ and Jacques,⁴⁹ who have noted that the global expansion of IPRs may affect the ability of subsistence farmers to continue important agricultural processes such as saving, exchanging, and re-planting seeds. Considering the important role that traditional subsistence agriculture plays in food production in West African countries, for IP regulations to enhance food security in West Africa it is suggested that they: increase farmers' incomes and improve the livelihoods of subsistence farmers; encourage the conservation, use and enhancement of agrobiodiversity and traditional knowledge; facilitate the exchange of seeds, other propagating materials and associated knowledge; and recognize and reward farmers for their contribution in the development and care of plant varieties.⁵⁰

Today, many products and processes related to agricultural biotechnology, like genetically modified seeds and insecticides, are also affected by international treaties relating to trade and IPRs.⁵¹ A legal policy for food security must find a way of integrating these overlapping regulations. Because *one size does not fit all* in applying IPRs to attain food security, every country

⁴⁷ Carlos Correa, "TRIPS Flexibility for Patents and Food Security: Options for Developing Countries", *BRIDGES AFRICA* (17 June 2013) at 1 [Correa, "TRIPS Flexibility for Patents and Food Security"]; Farhana Yamin, "Intellectual Property Rights, Biotechnology and Food Security" (2003) *IDS Working Paper* 203; Tansey & Rajotte, *supra* note 6.

⁴⁸ Susan K. Sell, "What Role for Humanitarian Intellectual Property? The Globalization of Intellectual Property Rights" (2004) 6:1 *Minnesota Journal of Law, Science and Technology* 191, at 192-194. [Sell, "What Role for Humanitarian IP?"].

⁴⁹ Peter Jacques & Jessica Jacques, "Monocropping Cultures into Ruin: The Loss of Food Varieties and Cultural Diversity" (2012) 4 *Sustainability*, 2970 at 2972-2974. [Jacques & Jacques, "Monocropping Cultures into Ruin"]

⁵⁰ See Smith & Bragdon, IPRs and Farmer Innovations, *supra* note 32, at 32-33.

⁵¹ For example, the World Trade Organization's [WTO] *Agreement on Agriculture*, 15 April 1994, 1867 UNTS 410 [WTO-AoA] forms a compulsory part of the WTO Agreements.

requires flexibility to contextualize regulatory frameworks.⁵² The characteristics that must be catered for to contextualize IP regulation to support food security in the West African context are reviewed below in section 1.2.3.

1.2.3 IP and Food Security in the West African Context

Consisting of 16 countries, the West African region is currently experiencing high levels of population growth which, the United Nations projects is expected to reach an estimated 430 million people by 2020 and exceed half a billion by 2040.⁵³ According to current estimates, some 36 million West Africans are still undernourished and several million people living in the region face food emergencies every year, particularly during the dry season when low rainfall makes food cultivation difficult.⁵⁴ Generally, countries in the region did not meet the World Food Summit (WFS) and Millennium Development Goal (MDG 1.C) targets of halving the number of hungry and undernourished by 2015.⁵⁵ With the exception of Ghana, West African countries ranked in the bottom 20 of the 113 countries assessed in the 2016 Global Food Security Index.⁵⁶ This makes attaining food security a priority for development in the region.

Agriculture is the major source of food, income and livelihood for 70–80 percent of the West African population, accounting for approximately 35% of the gross domestic product (GDP) in the

⁵² Suzanne Scotchmer, *Innovation and Incentives* (Cambridge Massachusetts: MIT Press, 2004) at 117.

⁵³ Normand Lauzon & Laurent Bossard, “The socio-economic and regional context of West African Migrations” (2006), SAHEL AND WEST AFRICA CLUB & OECD Working document 1, at 8, online: <<http://www.oecd.org/migration/38481393.pdf>> (accessed:22 May 2017).

⁵⁴ Organisation for Economic Co-operation and Development [OECD], *Stats of the Week: Food Security in West Africa* (2017), online: <www.oecd.org/statistics/stats-of-the-week-food-security-in-west-africa.htm>.

⁵⁵ FAO, *Regional Overview of Food Insecurity in Africa: African Food Security Prospects Brighter than Ever* (Accra: FAO, 2015) at 1.

⁵⁶ The Economist Intelligence Unit, “Global Food Security Index 2016”, online: <<http://foodsecurityindex.eiu.com/>> at 9 (accessed: 28 August 2017).

region and 60% of the active labor force.⁵⁷ In contrast to developed countries, farming in West Africa is characterized by rain-fed production, low fertilizer use, free saving, replanting and exchange of seeds, and the cultivation of local crops by smallholder subsistence farmers.⁵⁸ As such, protecting traditional customary farming practices is indispensable for realising West Africa's food security and development objectives.

Agricultural technology and manufacturing in the region remain relatively undeveloped in comparison to other developing countries.⁵⁹ Hence, enhancing food security in the region requires designing strategies for training in new agricultural techniques; increasing access to relevant plant and genetic material; as well as capacity building in the local agricultural sector for development of domestic agricultural technology, so as to ensure sustainable production.⁶⁰

The differential design of IP policies at the regional level is also important because contemporary IP agreements require the opening up of markets to facilitate free trade. Studies indicate that the Monsanto (now Bayer) DuPont, and Syngenta companies dominate over 53% of the global market for seeds.⁶¹ This gives them enormous power to control markets and pricing, what consumers eat, and what gains farmers receive for their crops and livestock. For farmers, this means fewer options and higher prices for their major input—seeds.⁶²

⁵⁷ USAID, "Agriculture and Food Security", *West African Regional* (10 May 2017) [USAID, Agriculture and Food Security].

⁵⁸ Daniel Callo-Concha et al, "Farming in the West African Sudan Savanna: Insights in the context of climate change" (2013) 8:38 *African Journal of Agricultural Research* 4693; USAID, Agriculture and Food Security, *supra* note 57.

⁵⁹ See Manufacturers Association of Nigeria [MAN], "MAN Position on ECOWAS-EU Economic Partnership Agreement (EPA)" *The Punch Newspaper Nigeria* (5 June 2015) at 22.

⁶⁰ FAO, *Trade Reforms and Food Security Conceptualizing the Linkages*, *supra* note 2, at 11.

⁶¹ Debbie Barker et al, *Seed Giants vs US farmers: A report by the Centre for Food Safety & Save Our Seeds* (Washington DC: Center for Food Safety, 2013); Massimiliano Granieri, "Genetically modified seeds, intellectual property protection and the role of law in transnational perspective", in Giuseppe Bellantuono & Fabiano T. Lara, eds., *Law, Development and Innovation* (Cham: Springer International Publishing, 2016) 89.

⁶² Aviva Shen, "Why Seven African Nations Joined Anti-Monsanto Protests Last Weekend", *Think Progress*, (17 October 2013). Online: <<https://thinkprogress.org/why-seven-african-nations-joined-anti-monsanto-protests-last-weekend-e6ccf0dd165b/>>.

In West Africa, global trade has brought fiercer competition to domestic agricultural products, from the cheaper genetically modified brands of agricultural produce; raising concerns that this trend will lead to reduced biodiversity, a greater reliance on imports, and increased food insecurity in the region.⁶³ A modern day example is that of Burkina Faso, where permission to grow genetically modified cotton was withdrawn in 2018, as the country's farmers claimed that since allowing genetically modified seeds their markets have been flooded with poor quality cotton that is unable to fetch a good income in the global market.⁶⁴

Because of their nature as negative rights, which grants owners the power to prevent others from taking actions,⁶⁵ the proprietary rights granted by IPRs in patents and plant breeders' rights (PBR) may interfere with access to plant and genetic resources necessary for inventions relevant to food security in West Africa. Current studies challenge the conventional notion of IPRs as necessary for innovation by pointing out that innovation in plant breeding has flourished in traditional African agriculture in the absence of IPRs;⁶⁶ and that because the exclusive nature of patents and PBR restricts free circulation of plant genetic resources which are important for research, IPRs hinder rather than advance the recognition and protection of new plant varieties in Africa.⁶⁷

⁶³ John M. Curtis, "Intellectual property rights and international trade: An overview" (2012) 3 *Centre for International Governance Innovation (CIGI) Papers*, at 6-7 [Curtis, IPRs and Int. Trade: An overview].

⁶⁴ Theresa Krininger, "Burkina Faso abandons GM Cotton" *Deutsche Welle: Made for Minds* (28 June 2016), online: < <http://www.dw.com/en/burkina-faso-abandons-gm-cotton/a-19362330>> (accessed: 25 August 2017); FIAN International, "Business Profits or Diverse Food Systems? Threats to peasant seeds and implications in West Africa", *Global Network for the Right to Food and Nutrition Report*, February 2018 (Heidelberg, Germany: FIAN Int., 2018), at 42-45 & 47-48.

⁶⁵ See Peter Drahos *A Philosophy of Intellectual Property* (Abingdon, Oxon: Routledge, 2016) at 1-11 [Drahos, A Philosophy of Intellectual Property].

⁶⁶ Uma Suthersanen, Graham Dutfield & Kit Boey Chow, eds, *Innovation without patents: Harnessing the creative spirit in a diverse world* (Cheltenham, UK: Edward Elgar, 2007) [Suthersanen, Innovation without patents].

⁶⁷ Carlos M. Correa, *TRIPS-Related Patent Flexibilities and Food Security: Options for Developing Countries* (Geneva, Switzerland: QUNO-ICTSD, 2012).

By making the adoption of harmonised minimum standards of IP protection a prerequisite for participating in global trade, multilateral IP regimes restrict access to essential resources, increase prices for seeds and other agricultural inputs, reduce biodiversity in local plants, and create greater dependence on foreign seed imports from multinational corporations by less technologically advanced countries.⁶⁸ This poses a challenge to the realisation of food security in West Africa. Because *one size does not fit all* in applying IPRs to advance development, it is necessary to differentially adapt IP policy and regulation, so as to advance food security in West Africa as a matter of human right.

1.2.4 Relevance of the EU-ECOWAS EPA

Formed in 1975 by fifteen countries,⁶⁹ the Economic Community of West African States (ECOWAS) is the major regional alliance regulating trade with the aim of advancing the economic, social and cultural interests of the people and countries in West Africa.⁷⁰ The original agreement was revised and replaced in 1993 by the *Revised ECOWAS Treaty*, in which sixteen West African countries pledged to increase the living standards of their peoples, to ensure food security through greater agricultural productivity, and to introduce harmonized food security regulations and policies at the regional level.⁷¹

⁶⁸ Carlos M. Correa, *Plant Variety Protection in developing countries: A tool for designing a sui generis plant variety protection system: An alternative to UPOV 1991* (Germany: Association for Plant Breeding for the Benefit of Society (APBREBES) and its member organizations: Berne Declaration, Development Fund, SEARICE, Third World Network, 2015), at 27-45; Susan K. Sell, ‘What role for humanitarian intellectual property?’ *Supra* note 48, at 192-194.

⁶⁹ Benin, Burkina Faso, Cote d’Ivoire, Ghana, Guinea, Gambia, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo. Cape Verde joined ECOWAS in 1977. The majority of ECOWAS states are classified as Least Developed Countries (LDCs), while Cape Verde, Ghana, Ivory Coast, and Nigeria are developing countries. See the UN, List of Least Developed Countries, General Assembly Resolution A/RES/70/253, adopted on 12th February, 2016. Online: <http://www.un.org/en/development/desa/policy/cdp/lde/lde_list.pdf>.

⁷⁰ *Economic Community of West African States Treaty*, 15 West African States, 28 May 1975, No.14843, Art 2.1 (entered into force 20 June 1975).

⁷¹ *Revised Treaty of the Economic Community of West African States*, 16 West African States, 24 July 1993, Arts 3 and 25 (entered into force 23 August 1995) [ECOWAS Revised Treaty].

The need to advance food security in West Africa has been acknowledged by ECOWAS, through its initiation of regional agreements and policies related to the goal. Modern examples include the ‘Zero hunger initiative for West Africa’⁷² and the ‘Global Alliance for Resilience (AGIR) in the Sahel and West Africa.’⁷³ At the global level, ECOWAS countries have also ratified the UDHR, ICESR, CBD, ITPGRFA, and other agreements related to food security.

Signed in 2014, The Economic Partnership Agreement (EPA) between the EU and ECOWAS⁷⁴ is an economic and trade agreement whose objectives include: job-creating economic growth, poverty eradication, higher living standards, full employment, economic diversification, and increased income and production, in a way which is compatible with the economic difference and needs of West African countries.⁷⁵ But it adopts the regime for IP regulation contained in international agreements like TRIPS.⁷⁶

Because the EPA contains provisions (Articles 3, 6, 46-51, and 106) relating to agriculture, geographical indications, innovation, traditional knowledge, which are also the subject of contemporary IP regulations; the EPA will have implications for the relationship between IP and food security in West Africa, both now and in the future. Recent examples of West African countries protesting IP regulated agricultural products for negatively impacting domestic farming and food security;⁷⁷ along with case studies of African countries (including Ghana and South Africa), indicating that the PBRs and patents granted over improved plant varieties are mainly held

⁷² ECOWAS Commission, Position Paper Towards Local-Level Food Security in West Africa: “Zero Hunger in West Africa”, September 2012.

⁷³ Global Alliance for Resilience (AGIR) in the Sahel and West Africa Declaration, ECOWAS, UEMOA & CILSS, AGIR, 6 December 2012.

⁷⁴ *Economic Partnership Agreement* between the West African States, ECOWAS and WAEMU of the one part and The European Community and its Member States of the Other Part, EU/EPA WA/en, February 2014 [EPA].

⁷⁵ EPA Article 1.1(a)

⁷⁶ See EPA Article 1.1(e); and Dalindyabo Shabalala, “The European Approach to Intellectual Property in European Partnership Agreements with the African, Caribbean and Pacific Group of Countries”, *Center for International Environmental Law (CIEL) Discussion Paper*, April 2007.

⁷⁷ Shen, *supra* note 62.

by a few multinational companies and do not necessarily enable smallholder farmers to access improved seed so as to boost food security;⁷⁸ highlight the need to reevaluate current regulations of IPRs related to food security in West African states, and to draw up a more suitable regional framework.⁷⁹

Though IP provisions in the EU-ECOWAS EPA are few, the fact that negotiations are currently taking place to provide more detailed IP regulations, makes analysis of the EPA important so as to grant directions to policy makers on developing future IP regulations. Such a resourceful support as the thesis is positioned is necessary for African countries as a review of the EU EPA with the most detailed provisions for IP protection, namely the EU agreement with the Caribbean (the EU-CARIFORUM EPA)⁸⁰, shows detailed and prescriptive IP provisions that transplant specific EU regulations on the subject in ways that constrain the national policy space for contextualization of laws to advance domestic public interest goals like food security.⁸¹ Further, important TRIPS flexibilities and safeguards found in the EU Enforcement Directive are missing from the CARIFORUM Agreement. These include the general principles granting countries flexibilities in the methods adopted for implementing IP,⁸² to adopt provisional measures⁸³ and

⁷⁸ See Guido Ruivenkamp, Shuji Hisano & Joost Jongerden, eds, *Reconstructing Biotechnologies: Critical Social Analysis* (Wageingen, Netherlands: Wageingen Academic Publishers, 2008) at 246-247; La Via Campesina, “Seed Laws that Criminalize Farmers: Resistance and Fight Back”, *GRAIN* 8 April 2015. Online: <<https://www.grain.org/article/entries/5142-seed-laws-that-criminalise-farmers-resistance-and-fightback>>.

⁷⁹ Enrique de Loma-Ossorio, Carmen Lahoz & Luis F. Portillo, *Assessment on the Right to Food in the ECOWAS Region* (Rome: FAO, 2014) at 1.

⁸⁰ *Economic Partnership Agreement between the CARIFORUM States, of the one part, and the European Community and its Member States, of the Other Part*, 15th October 2008, Bridgetown Barbados, OJ L289/I/3.

⁸¹ Anke Moerland, “Do Developing Countries have a Say? Bilateral and Regional Intellectual Property Negotiations with the EU” (2017) 48 *International Review of Intellectual Property and Competition Law*, 760, at 764-765. Online at: <<https://link.springer.com/article/10.1007/s40319-017-0634-6>> [Moerland, Do Developing Countries have a Say?]

⁸² See Article 41.5 TRIPS which has been omitted in CARIFORUM-EU EPA

⁸³ Article 156 of the CARIFORUM-EU EPA does not include the safeguards provided in Articles 50.3, 50.6 and 50.7 TRIPS

corrective measures.⁸⁴ Consequently, there is a likelihood that current IP regulations being negotiated by the EU with Africa will seek to maintain TRIPS-plus provisions.

1.3 The Research Questions

This research examines two questions:

1. *“How can the intellectual property related norms, principles and provisions of multilateral regional agreements be best structured to support food security in West Africa?”*; and
2. *“What implications does the Economic Partnership Agreement (EPA) between the European Union and the Economic Community of West African States (ECOWAS) have for food security in West Africa?”*

1.4 Review of Relevant Literature

Previous research exists tackling the relationship between IP and food security as part of the development objective.⁸⁵ In his examination of developing countries, Michael Blakeney emphasizes the positive contribution that IPRs play in food security by serving as an incentive for advancing agricultural research and development.⁸⁶ This positive perception of IPRs is emphasized in literature studying biotechnology, which is often portrayed as an instrument for enhancing the quality and quantity of agricultural produce.⁸⁷ Other studies adopt this view by arguing that

⁸⁴ Art. 157 CARIFORUM-EC EPA, Art. 241 EU-Colombia-Peru FTA omits the need to secure proportionality when imposing corrective measures, as set out in Art. 46 TRIPS Agreement.

⁸⁵ See Blakeney, IPR and Food Security, *supra* note 30; Ram Prasad, U.S Bagde & Ajit Varma, *supra* note 30; Forsyth & Farran, *supra* note 40; Ramcharan, *supra* note 40.

⁸⁶ Blakeney, IPR and Food Security, *supra* note 30.

⁸⁷ John Omiti, Rosemary Chacha & Mosoti Andama, “Biotechnology can Improve Food Security in Africa” (2007) 2:2 *African Journal of Food, Agriculture, Nutrition and Development* 14; Jai P. Mishra, “Intellectual Property Rights and Food Security: The Efficacy of International Initiatives” (2001) 4:1 *Journal of World Intellectual*

contemporary international regulations, which link IPRs with trade, are a basis for free trade and economic advancement which will enhance food security.⁸⁸ “Within an ‘economic growth’ model for development, IPRs are often assumed to play a crucial role as an engine of growth and innovation in a country, as well as a conduit for foreign investment and technology transfer.”⁸⁹ However, there is insufficient evidence to prove that greater integration into the world trading system, or the grant of more privileges to holders of IPRs, will lead to social development for poorer less technologically advanced countries.⁹⁰ The institution of stronger IP protection for genetically modified products and processes has been hailed by international organizations like the WTO as the solution that would, by enhancing qualitative agricultural production, resolve the problem of food insecurity worldwide.⁹¹

Yet this notion has been debated by international organizations such as the European Parliament, the UN Food and Agriculture Organization (FAO) and GRAIN,⁹² which argue that patents and PBRs are detrimental to food security because they encourage the farming of a narrower range of genetically-uniform crops, the majority of which are inedible cash crops.⁹³ By

Property 5; Ralph Christy & Vicki Bogan, *Financial Inclusion, Innovation, and Investments: Biotechnology and Capital Markets Working for the Poor* (Singapore: World Scientific, 2011).

⁸⁸ See Carlos Braga et al, *Intellectual Property Rights and Economic Development* (Washington D.C.: World Bank, 1999); Keith E. Maskus, *Private Rights and Public Problems: The Global Economics of Intellectual Property in the 21st Century* (Washington, DC: Peterson Institute for International Economics, 2012) [Maskus, Private Rights and Public Problems]; Abiodun S. Bankole, “Bilateral Investment Treaties Between ECOWAS and European Union Countries”, paper presented at the African Economic Conference, Tunis, Tunisia, 13 November 2008 [unpublished].

⁸⁹ See Jeremy de Beer, ed, *Implementing WIPO’s Development Agenda* (Waterloo: Wilfrid Laurier University Press, 2009); Ruth Gana, “The Myth of Development” (1996) 18:2-3 *Law & Policy* 315; Tzen Wong & Graham Dutfield, eds, *Intellectual Property and Human Development: Current Trends and Future Scenarios* (Cambridge: Cambridge University Press, 2011) at 3.

⁹⁰ See Keith E. Maskus, “Intellectual Property Rights and Economic Development” (2000) 32:3 *Case Western Reserve Journal of International Law* 471; Srividhya Ragavan, *Patent and Trade Disparities in Developing Countries* (Oxford: Oxford University Press, 2012).

⁹¹ Qaim & Kouser, *supra* note 43; David Zilberman, “GMOs and Global Food Security”, *Beyond the Science*, 18 December 2014 [Zilberman, GMOs and Food Security].

⁹² GRAIN is a small international non-profit organization that works to support small farmers and social movements in their struggles for community controlled and biodiversity-based food systems.

⁹³ See European Parliament Directorate-General for External Policies Department, “The New Alliance for Food Security and Nutrition in Africa”, November 2015, European Union Doc EP/EXPO/B/DEVO/2015/01, November 2015-PE535.010, at 27-30 & 33; Schutter Report 2014, *supra* note 9.

reducing biodiversity, genetically modified (GM) crops have the potential of worsening the nutritional value of people's diets and making crops more vulnerable to outbreaks of devastating diseases. Strengthening the rights of breeders and seed manufacturers at the expense of traditional farming will limit the freedom of farmers to acquire seeds they wish to plant without payment to breeders, thereby impoverishing them further and restrict the free circulation of plant genetic resources, which is generally considered essential for the development of new plant varieties.⁹⁴

Authors such as Carlos Correa, Vandana Shiva and Carolyn Deere, agree with this view of the relationship between IP protection and food security, emphasizing that in its present form, the contemporary international regime for regulating intellectual property hinders rather than advances food security in developing countries.⁹⁵ Many development analysts adopt this perspective based on the influence of political and commercial interests in shaping current international IP regulations, environmental effects, and the unsuitability for developing countries of international IP regimes that were designed for developed industrialized countries.⁹⁶

The approach taken by this study is to view the relationship as a functional one, the utility of forms of IP protection such as patents, PVP, and PBRs to advancing food security varies, based on the context in which they are applied. This study views IPRs as capable of being integrated with food security interests, by designing an alternative framework. No measure is locked out, as

⁹⁴ Rob Vos, "Thought for Food: Strengthening Global Governance of Food Security" (2015) *FAO CDP Background Paper* No.29, ST/ESA/2015/CDP/29; APBEBES, "Trade Deals Criminalize Farmers' Seeds", *GRAIN*, November 2014.

⁹⁵ Carlos M. Correa, "Review of the TRIPS Agreement" (2001) *Third World Network*; Vandana Shiva, "The Future of Food: Countering Globalisation and Recolonisation of Indian Agriculture" (2004) 36:6 *Futures* 715; Carolyn Deere, *The Implementation Game: The TRIPS Agreement and the Global Politics of Intellectual Property Reform in Developing Countries* (Oxford: Oxford University Press, 2008) [Deere, *The Implementation Game*].

⁹⁶ Walter Park & Douglas Lippoldt, "Technology Transfer and the Economic Implications of the Strengthening of Intellectual Property Rights in Developing Countries" (2008) *OECD Trade Policy Working Papers no.62*; James Boyle, "A Manifesto on WIPO and the Future of Intellectual Property" (2004) *Duke Law and Technology Review* 9; Clemente Forero-Pineda, "The Impact of Stronger Intellectual Property Rights on Science and Technology in Developing Countries" (2006) 35:6 *Research Policy* 808.

long as it can be legally justified and found supportive of food security in the West African specific context. Scholars have leaned towards adopting pre-existing definitions and norms in analysis of IPRs and development. For example, a WIPO publication views IP as “a power tool for economic growth”;⁹⁷ while various studies adopt the presumption that strengthening IPRs will enhance market access and income generation in all countries.⁹⁸ However, such generalizations do not adequately cater for the differences between states, and the need to design *sui generis* frameworks for IP regulation, in order to bring about food security in different contexts. In contrast, this research adopts a contextual approach in examining existing IP principles, norms and regulations, to ensure that the framework adopted effectively incorporates the aspects of food security unique to the West African region.

Several authors have looked at food security in the WTO regime, mostly in relation to the WTO Agreement on Agriculture.⁹⁹ The Agreement on Agriculture (AoA) which resulted from the Uruguay Round negotiations attempts to establish ‘a fair and market-oriented agricultural trading system’ through ‘substantial progressive reduction in agricultural support and protection’.¹⁰⁰ Food security is listed as a ‘non-trade concern’.¹⁰¹ The studies confirm that trade is an instrument that can be used in fulfilling the food security objective. They identify balancing both market access and domestic policy space, along with differential regulation for small farmers in developing

⁹⁷ Idris Kamil, *Intellectual Property: A Power Tool for Economic Growth* (Geneva: World Intellectual Property Organization [WIPO], 2003) WIPO Publication No.888.1., 2nd Edition.

⁹⁸ Michael J. Finger & Philip Schuler, *Poor People’s Knowledge: Promoting Intellectual Property in Developing Countries* (Washington, DC: World Bank, 2004); Bernard Decaluwe et al, “A Study with Market Access and EPADP Scenarios Using the HS6 Model for the West Africa EPA” (2012) *Report for the European Commission [EC] and ECOWAS secretariats done by ITAQA Sarl*, Volumes 1-4; Adeola Adenikinju & Abiodun Bankole, “CGE Modeling of Impact of European Union-West Africa Economic Partnership Agreement on Nigeria” (2014) *Rapport*, University of Ibadan 23; Antoine Bouet, David Laborde & Fousseini Traoré, “The European Union-West Africa Economic Partnership Agreement Small Impact and New Questions” (2016) *IFPRI Discussion Paper* 01502.

⁹⁹ Christian Haberli, “Food Security and WTO Rules”, in Baris Karapinar & Christian Haberli, eds, *Food Crisis and the WTO World Trade Forum* (Cambridge: Cambridge University Press, 2010), 297-322 [Haberli, Food Security];

¹⁰⁰ AoA, Preamble, excerpts from the second and third indent.

¹⁰¹ AoA, Preamble, sixth indent.

countries as essential for advancing food security in the multilateral WTO regime.¹⁰² In the words of Haberli: “As the profound divergences between the different developing countries in the Doha negotiations showed, there is no single solution to this dilemma. In our view only a comprehensive package addressing both interests – more market access, and more ‘policy space’ – can assist the progressive reform process necessary in most countries, including carefully targeted solutions for special products and safeguards, as well as accompanying measures and binding aid for trade guarantees.”¹⁰³ However, these studies mostly focus on the effects of the WTO Agreement on Agriculture and issues like tariff reductions and stockpiling, rather than TRIPS or IPRs. They review food security at the global level. This study will help fill in the gap as it focuses specifically on the relationship between IPRs (patents and PVP) and food security in regional, rather than multilateral, regimes in West Africa.

A common approach in analyzing the relationship between food security and IPRs is to adopt the Human Rights (HR) approach that views the right to food (and food security) as an inalienable human right, which should be given greater weight than IPRs.¹⁰⁴ This approach may lead to a conflict of interests with those that view IPRs as an equally important human right, necessary to sustain humanity through innovation and access to related products and processes.¹⁰⁵ Also, because they represent two separate facets of law, the room for applying HR norms in IP regulation will be

¹⁰² Haberli, Food Security, *supra* note 99, at 302.

¹⁰³ Haberli, Food Security, *supra* note 99, at 312.

¹⁰⁴ See Richard Eliot, *TRIPS and Rights: International Human Rights Law, Access to Medicines, and the Interpretation of the WTO Agreement on Trade Related Aspects of Intellectual Property Rights* (Montreal: Canadian HIV/AIDS Legal Network and AIDS Law Project (South Africa), 2001) at 2; Patricia Kameri-Mbote, “Intellectual Property Protection in Africa” (2005) 2 *IELRC Working Paper*, at 4.

¹⁰⁵ Obiaro C. Okafor, “‘Righting’ the Right to Development: A Socio-Legal Analysis of Article 22 of the African Charter on Human and Peoples’ Rights”, in Stephen P. Marks, ed, *Implementing the Right to Development: The Role of International Law* (Cambridge, MA: Harvard University, 2008) 52-63, at 54. [Okafor, Righting the Right to Development].

rather limited except where specifically allowed as an exception to IPRs, or under general legal principles applying to both fields.

Socio-legal scholars emphasize that the fragmented landscape of food related laws creates many opportunities for regulation to be shaped by short-term political interests and not by social and ecological realities.¹⁰⁶ Studies have shown that often African countries accept enhanced IP protection and enforcement in bilateral agreements as a trade-off to be granted preferential access to markets in developed countries. Deals are driven by export interests and other objectives external to the IP system rather than the common goal to achieve a mutually advantageous, balanced regulation. Further, the process of negotiating bilateral and regional agreements has been particularly criticized by scholars and civil society organizations as lacking transparency, inclusiveness and equal participation of stakeholders and the public.¹⁰⁷

These studies highlight the fact that understanding how IP regimes interact with other non-IP regimes is important in ensuring that current IP regimes advance food security in West Africa. The provisions of the Doha Declaration indicate that the WTO desires to interact more closely with other regimes that affect public interest, such as those regulating biodiversity, human rights and sustainable development. In order to attain greater acceptability, the institutions regulating IP in West Africa should interact more closely with other regimes that affect public interest, such as those regulating biodiversity, human rights and sustainable development. Thus, a regional IP

¹⁰⁶ See Margaret Young, *Trading Fish, Saving Fish: The Interaction Between Regimes in International Law* (Cambridge, UK: Cambridge Univ. Press, 2011); Christine Parker & Hope Johnson, “From Food Chains to Food Webs: Regulating Capitalist Production and Consumption in the Food System” (2019) 15 *Annual Review of Law and Social Science*, 205

¹⁰⁷ See Anke Moerland, “Do Developing Countries have a Say?”, *supra* note 81; Bamidele Adekunle & Monika Korzun, “Trading with China: How Can Africa Benefit?”, in Gbadebo Odulare & Bamidele Adekunle, eds, *Negotiating South-South Regional Trade Agreements: Economic Opportunities and Policy Directions for Africa* (Cham, Switzerland: Springer, 2017) 35, at 42-44; and Oxfam, “Unequal Partners: How EU-ACP Economic Partnership Agreements could Harm the Development Prospects of Many of the World’s Poorest Countries” (2006), *Oxfam Briefing Note*.

regulation should include procedural regulations and policies that address the interactions between social, economic, cultural and political interests in an open and accountable manner. This understanding has led scholars to call for holistic and integrative approaches to IP regulation that understand regulation as a plural socially and politically embedded regulatory space in which different actors—market, state, and civil society—engage in regulation of one another.¹⁰⁸ While adopting a holistic approach and generally considering the relationships between legal regimes, this study will focus on the legal relationship between IP and non IP agreements, as in-depth analysis of socio-economic influences will require a full-fledged study beyond the scope of this thesis.

Social movements have arisen trying to ensure that the interests of peasant farmers and indigenous peoples are considered in IP and trade regulations. The food sovereignty movement is a contemporary example of such a regime. Although not yet a consolidated legal regime, the concept of food sovereignty has been advocated as “a new, alternative paradigm and driver of change challenging the current food regime, in its efforts to re-embed economic, environmental, and equity-related concerns around agricultural production, consumption, and trade.”¹⁰⁹ Food sovereignty has been defined as “the right of peoples, communities, and countries to define their own agricultural, labor, fishing, food and land policies which are ecologically, socially, economically and culturally appropriate to their unique circumstances. It includes the true right to food and to produce food, which means that all people have the right to safe, nutritious and culturally appropriate food and to food-producing resources and the ability to sustain themselves

¹⁰⁸ Christine Parker & Hope Johnson, “From Food Chains to Food Webs: Regulating Capitalist Production and Consumption in the Food System” (2019) 15 *Annual Review of Law and Social Science*, 205, 214-215.

¹⁰⁹ Hannah Wittman, “Food Sovereignty: A New Rights Framework for Food and Nature?” (2011) 2:1 *Environment and Society*, 87, at 90.

and their societies.”¹¹⁰ As a concept, food sovereignty critiques capitalist food chains, the privatization of resources used in agriculture (e.g., seeds and water), and related, neoliberal (free market) approaches to food supply chains. Building on the human rights approach, food sovereignty recognizes the freedom and capacity of people and their communities to exercise and realize their right to food, by protecting their right to produce food domestically and assuring their access to productive resources. Because it can aid steady food supply with less vulnerability to changes in global food prices, food sovereignty is a valuable addition to the food security discourse as it is a concept which applies from the individual level to the level of nation states.¹¹¹

For West African states where agricultural production of food is still largely dependent on subsistence farmers relying on traditional methods such as the free exchange and re-use of seed, the concept of food sovereignty offers a lot of potential in contributing to advancing food security in the region. The role that state sovereignty may play in advancing the right to food is illustrated in the Peru Potato Park example, where in the highlands of Pisac, at 3,800 meters above sea level, five indigenous Quechua communities came together in 2002 with the support of an NGO, Asociación ANDES, to form the Potato Park, *Parque de la Papa*, which preserves 1,400 native varieties of potato.¹¹² Farming in the potato farms is carried out based on the concept of ayllu, a political and socio-economic system that views humans and their domesticated crops and animals; wild plants and creatures; and the earth as living in a symbiotic relationship. In this approach, the earth is seen as giving potatoes, other crops, animals and the living landscape to the people – gifts that must be reciprocated through the giving of *pagos*, or offerings, in return. As such, the objective

¹¹⁰ NGO/CSO Forum for Food Sovereignty, “Food Sovereignty: A Right for All”, 2002, Rome, Italy, 8-13 June, 2002. Online: <<https://nyeleni.org/spip.php?article125>>; Nyeleni Forum for Food Sovereignty, “2007 Declaration of the Forum for Food Sovereignty”, Selingue, Mali, 23-27 February 2007.

¹¹¹ Philippe Cullet, “Food Security and Intellectual Property Rights in Developing Countries” (2003) *IERLC Working Paper* 2003-3, at 3

¹¹² Katherine Zavala, “Peru’s Potato Park: ‘Buen vivir’ in Practice”, *Thousand Currents*, 24th October 2016. Online at: <<https://thousandcurrents.org/perus-potato-park-buen-vivir-in-practice/>>.

of agriculture in Quechua societies is not to raise maximum crop yields for market sale and profit. Rather, it is to faithfully implement the principles associated with the *ayllu*, which include regenerative agroecological practices that have evolved within the Andean landscape. In recent decades, multinational biotech and agricultural corporations have increasingly sought to appropriate the fruits of such distinctive ecosystems and convert them into market commodities. They often buy up or evict traditional communities, dismantle traditional agriculture and claim patents in seeds, genes and other organisms. Regions with rich biodiversity such as Peru are a prime hunting ground for such corporate predators, whose acts of biopiracy seek to privatize genetic and physical resources that have been managed as commons for generations.

To prevent such market enclosures of shared wealth, the indigenous peoples of the Cusco Valley joined with the nonprofit group ANDES in the 1990s to develop an ingenious legal innovation, the Indigenous Biocultural Heritage Area (IBCHA). The idea, launched in 2000, was to create a *sui generis* legal regime to preserve and promote native potato varieties and protect the fragile ecosystem by recognizing the role of indigenous “biocultural heritage” practices.¹¹³ Under the IBCHA system, communities that belong to the Potato Park have agreed to selectively share their “living library” of potato genetic knowledge with scientists. In a special agreement with the International Potato Center (CIP) – a nonprofit food security organization that works with the global research partnership CGIAR – the Potato Park has shared more than 200 of its 900 native potato varieties with scientists, and is facilitating experiments to cultivate new (non-GMO) potato varieties that can resist climate change. They also have a special interest in “repatriating” potato varieties that were lost when modern, commercial farming methods were introduced. However, the Potato Park disallows the patenting of any genetic knowledge, based on the belief that private

¹¹³ David Bollier, “The Potato Park of Peru”, *The Green Political Foundation*, 25th January 2016. Online at: <<https://www.boell.de/en/2016/01/25/potato-park-peru>>.

property rights are incompatible with the sacred and collective status of the potatoes. The Potato Park agreement is widely seen as a model that other agroecological cultures could emulate, as it recognizes the sanctity of community control over the potatoes while allowing modern scientific study and certain forms of communal business activities.¹¹⁴

However, food sovereignty seems to limit itself to only one aspect of food security, specifically issues of production among peasants. This is indicated in the provisions of the multilateral agreement that puts it forward, the 2018 UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP),¹¹⁵ which is analyzed in greater detail below. This limited view does not cover issues such as access to biotechnology, which also play an important role in providing food security. Small and medium scale businesses are also not addressed by the concept. Thus, while acknowledging the potential of the concept for advancing food security in Africa, this study will analyze ‘food security’ as allowing for a more holistic consideration of issues related to IP protection. Food sovereignty is just one among several tools needed to achieve food security. While recognizing the role that food sovereignty might play in advancing food security in Africa, the concept is not wide enough to deal with issues such as access to agricultural biotechnology, which is also relevant in advancing food security. Thus, though food sovereignty and related terms are discussed in the thesis, the analysis will focus on achieving food security rather than food sovereignty.

While the literature generally admits to the need to integrate food security and intellectual property interests, it indicates that there is no uniform model by which this fusion should be applied

¹¹⁴ *Ibid.*

¹¹⁵ UN, *Declaration on the Rights of Peasants and Other People Working in Rural Areas*, UN HRC, 28 September 2018, A/HRC/RES/39/12. The Declaration arose from the Via Composita in an effort to enshrine the rights of peasants as part of international law.

in all countries.¹¹⁶ Thus, there is a need to differentiate IP and food security law and policy to suit different contexts. This need for contextualization is emphasized in relation to developing countries.¹¹⁷ The WTO Doha declaration recognized the need for “special and differential treatment for developing and least developed countries.”¹¹⁸ One size does not fit all in IPRs systems, thus there is a need to mold IP regulation to suit different sectors and countries.¹¹⁹ With regards to developing countries, the utility of modern forms of IP protection for advancing domestic development in those countries has continued to be contested.¹²⁰ Because the incomes and technical capacity of developing countries varies greatly, there is a need to analyze this relationship in countries with similar economic and social characteristics.

Studies exist that have contextualized analysis by focusing on the African continent. Michael Taylor and Jerry Cayford’s analysis of IPRs and public interests in Africa views increased harmonization and adoption of standards in relevant international treaties, by countries in the continent, as being important for advancing food security in Africa.¹²¹ In their analysis of IP regulation in Africa, Chidi Oguamanam, Bram de Jonge and Peter Munyi, counsel against adoption

¹¹⁶ See Ryo Shimanami, ed, *The Future of the Patent System* (Cheltenham, UK: Edward Elgar Publishing, 2012) at 229-275; Fiona Rotstein, “Is there an International Intellectual Property System?” (2011) 33:1 *European Intellectual Property Review* 1.

¹¹⁷ Ismail Serageldin et al, *Biotechnology and Sustainable Development: Voices of the South and North* (Wallingford: CABI, 2003) [Serageldin, Biotechnology and Sustainable Development] ; Justin Mabeya & Obidimma Ezezika, “Unfulfilled Farmers Expectations: the Case of the Inset Resistant Maize for Africa (IRMA) Project in Kenya” (2012) 1 *Agriculture and Food Security*; Philippe Cullet, “Revision of the TRIPS Agreement concerning the Protection of Plant Varieties” (1999) 2:4 *Journal of World Intellectual Property* 617.

¹¹⁸ WTO, *Doha Ministerial Declaration*, WT/MIN(01)/DEC/1, 20th November 2001, (adopted on 14th November, 2001) Para.50 [Doha Declaration].

¹¹⁹ Claudio Chiarolla, “Commodifying Agricultural Biodiversity and Development Related Issues” (2006) 9:1 *Journal of World Intellectual Property* 25.

¹²⁰ See Caroline B. Ncube, “Harnessing Intellectual Property for Development: Some Thoughts on an Appropriate Theoretical Framework” (2013) 16:4 *Potchefstroom Electronic Law Journal*, 369 at 371-372; Michael Heller, *The Gridlock Economy: How Too Much Ownership Wrecks Markets, Stops Innovation and Costs Lives* (New York: Basic Books, 2008); Edwin Mansfield, “Patents and Innovation: An Empirical Study” (1986) 32 *Management Science*, 173-181; and Maskus, *Private Rights and Public Problems*, *supra* note 88.

¹²¹ Michael Taylor & Jerry Cayford, “Biotechnology Patents and African Food Security: Aligning America’s Patent Policies and International Development Interests” (2004) 6:1 *Minnesota Journal of Law, Science, and Technology* 277.

of international IP treaties as the key to food security in Africa and contend for embracing of a differentiated system of IP regulation in the continent.¹²² Where detailed legal analysis has been conducted on the question of integrating Africa's development objectives with international IP laws, the focus has been on either: the whole of Africa as a single entity;¹²³ the country with the highest GDP in the continent, South Africa; Sub-Saharan Africa;¹²⁴ or Least Developed Countries (LDCs) in the region.¹²⁵ The main shortcoming of these studies has been their focus on international IP regulations, rather than on regional IP laws and policies. Regional, rather than international, norms and agreements will form the focus of my analysis.

Modern-day literature has emphasized the need for IP regulations to acknowledge the important contributions of traditional knowledge and subsistence farming to food security in Africa.¹²⁶ Inclusion of farmers' rights, prior informed consent, and access and benefit sharing provisions in IP regulations have been advocated as general legal measures for protecting traditional knowledge, local plants and genetic resources linked to agriculture.¹²⁷

¹²² Chidi Oguamanam, "Breeding Apples for Oranges: Africa's Misplaced Priorities over Plant Breeders' Rights" (2015) 18:5 *Journal of World Intellectual Property* 165 [Oguamanam, "Breeding Apples for Oranges"]; Bram de Jonge & Peter Munyi, "A Differentiated Approach to Plant Variety Protection in Africa (2016) 19:1-2 *Journal of World Intellectual Property* 28.

¹²³ Okafor, *supra* note 105.

¹²⁴ New York Academy of Sciences, "Delivery of Technology to Resource Poor Farmers in Africa" (2008) 1136 *Annals of the New York Academy of Sciences* 369.

¹²⁵ See Michael Blakeney, & Getachew Mengistie, "Intellectual Property and Economic Development in Sub-Saharan Africa" (2011) 14:3-4 *Journal of World Intellectual Property* 238; Adusei Poku, *Patenting of Pharmaceuticals and Development in Sub-Saharan Africa Laws, Institutions, Practices and Politics* (New York: Springer-Heidelberg, 2013); and Caroline Ncube, "Key Copyright Issues in African Distance Education: A South African Case Study" (2011) 32:2 *Distance Education*, 269.

¹²⁶ Emmanuel Sackey & Ossy Kasilo, "Intellectual Property Approaches to the Protection of Traditional Knowledge in the African Region" (2010) 13 *African Health Monitor*; Nicholas Gorjestani, "Indigenous Knowledge for Development: Opportunities and Challenges" in Sophia Twarog & Promila Kapoor, eds, *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (New York: United Nations, 2004) 265, UNCTAD/DITC/TED/10; Paul Richards, "Seed Systems for African Food Security: Linking Molecular Genetic Analysis and Cultivator Knowledge in West Africa" (2009) 45:1-2 *Int. J. Technology Management* 196.

¹²⁷ Naomi Roht-Arriaza, "Of Seeds and Shamans: The Appropriation of the Scientific and Technical Knowledge of Indigenous and Local Communities" (1996) 17 *Michigan Journal of International Law* 919.

However, considering the wide economic, social, legal and geographical variances between African countries, there is a need for contracted sub-continental analysis that contextualizes legal measures relevant to IP and food security to fit similar groups of African countries. One group that can be focused on is the region of West Africa, where relatively little legal research has been done. Studies analyzing the implications of IP related free trade agreements for West African development vary from those that unequivocally espouse the benefits of such agreements for the region;¹²⁸ to those that adopt a more pessimistic view of resulting benefits.¹²⁹

Detailed assessments of the status of food security and the right to food in ECOWAS have been provided by the Institute of Hunger Studies of the FAO and the German Development Institute, that mainly focus on the implications of EPA for regional trade and economics.¹³⁰ However scant attention is paid in these studies to regional IP regulations. Their focus remains mostly on the international IP regime. Collections of research and case studies exist, edited by Nnadozie et al,¹³¹ and de Beer et al,¹³² analyzing the effects of IPRs in African countries. However, after examining the current status of IP laws in the region, the studies have not gone on to draft a legal framework that will be suitable for ECOWAS states.

¹²⁸ Matin Qaim & David Zilberman, “Yield Effects of Genetically Modified Crops in Developing Countries” (2003) 299 *Science* 902; Isabelle Ramdoo, “ECOWAS and SADC Economic Partnership Agreements: A Comparative Analysis” (2014) *European Centre for Development Policy Management Discussion Paper* no.165.

¹²⁹ Oguamanam, Breeding Apples for Oranges, *supra* note 122; Louwaars Niels, “Controls Over Plant Genetic Resources: A Double Edged Sword” (2006) 7:4 *Nature Reviews Genetics* 241; Andrew Mushita and Carol Thompson, “At Issue: More Ominous than Climate Change? Global Policy Threats to African Food Production” (2013) 13:4 *African Studies Quarterly* 1.

¹³⁰ Loma-Ossorio, Lahoz & Portillo, *supra* note 79; Christoph Pannhausen, *Economic Partnership Agreements and Food Security: What is at Stake for West Africa?* (Bonn: Dt. Inst. für Entwicklungspolitik [DIE], 2006); Merran Hulse, “Economic Partnership Agreements: Implications for Regional Governance and EU-ACP Development Cooperation” (2016) *German Development Institute Briefing Paper* (December, 2016).

¹³¹ Kent Nnadozie et al, eds, *African Perspectives on Genetic Resources: A Handbook on Laws, Policies, and Institutions* (Washington D.C.: Environmental Law Institute, 2003).

¹³² Jeremy de Beer et al, eds, *Innovation & Intellectual Property: Collaborative Dynamics in Africa* (Cape Town: Open AIR and UCT Press, 2014).

1.5 Gaps in Previous Literature and Contributions of this Research

The World Trade Organization's (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)¹³³ is a multilateral treaty that sets minimum international standards for intellectual property (IP) protection, that are binding on the WTO's 164-member states. Since the formation of the WTO in 1994, developing countries in Africa have voiced doubts regarding the suitability of the agreement for attaining the food security objectives of the region.¹³⁴ Subsequently, other bilateral and regional agreements have been negotiated by African states. These agreements are crafted either by African institutions like the African Union (AU), or under guidance of and in collaboration with global economic actors that are often IP-rich nations. While some of the agreements advised strengthening of IPRs as the key to African development, others sought to increase the policy space for African countries to consider developmental issues in IP regulations.¹³⁵ Some of the treaties were built on TRIPS provisions and norms. The Economic Partnership Agreement (EPA), signed by the European Union (EU) and 15 members of the Economic Community of West African States (ECOWAS) in 2014, represents one of such agreements.¹³⁶

In-depth analysis of the relationship between IPRs and food security (FS) in West Africa is important for the following reasons: Firstly, the region is experiencing large scale population growth, susceptible to climate change and currently trailing behind in economic development.

¹³³ *Agreement on Trade Related Aspects of Intellectual Property Rights*, 15 April 1994, Annex 1c WTO Agreement (entered into force 1 January 1995) [TRIPS].

¹³⁴ Catherine Saez, "African Regional Plant Variety Protection Draft Legislation Raises Protests", *Intellectual Property Watch* (5 April 2013); see "Least Developing Countries Proposal to exempt them from having to protect and enforce pharmaceutical patents and clinical data", WTO document IP/C/W/605, 23 February 2015.

¹³⁵ Susan Strba, "Intellectual Property Pluralism in African Development Agendas: food security, plant variety protection and the role of WIPO", in Susy Frankel, ed, *Is Intellectual Property Pluralism Functional?* (North Hampton, MA: Edward Elgar Publishing, 2019) 37-65, at 37-38.

¹³⁶ *Economic Partnership Agreement between the West African States, ECOWAS and WAEMU of the one part and The European Community and its Member States of the Other Part*, February 2014. [EPA]

According to the United Nations (UN) the West African population is expected to reach 430 million people by 2020 and go beyond half a billion by 2040.¹³⁷ The majority of people in these countries rely on subsistence agriculture, using traditional farming methods, for income generation and food. ECOWAS is made up of 15 countries. 11 of these are described as “Least Developed Countries” (LDCs), while Cape Verde, Ghana, Ivory Coast and Nigeria are classified as developing countries.¹³⁸

Secondly, the fact that many West African countries rely mainly on the export of few agricultural products as their principal source of income, while increasingly relying on imports of important foods, makes their economies particularly vulnerable. The region’s increasing dependence on the global rice market for domestic cereal supplies doesn’t advance food security in the region. For example, in Nigeria, the biggest market in West Africa, 180 million people are estimated to consume nearly 6 million tons of rice per year. Just over half, or about 3.1 million tons, is imported despite a tariff of 70%. This makes food security in Nigeria vulnerable to fluctuations in global rice prices.¹³⁹

Statistics indicate that over 50% of rice consumed in West African countries is imported.¹⁴⁰ West African countries, especially Ghana, show a steep increase in rice imports, with corresponding increases in the expenditure of foreign currency. According to the International Rice Research Institute, Sierra Leone spent 101 million United States dollars on rice importation in

¹³⁷ Lauzon & Bossard, SAHEL AND WEST AFRICA CLUB/OECD, Working document 1, “The socio-economic and regional context of West African Migrations” (ISSY-LES-MOULINEAUX, France: OECD, November 2006), *supra* note 53, at 8, online: <<http://www.oecd.org/migration/38481393.pdf>>.

¹³⁸ UN Committee for Development Policy, *List of Least Developed Countries* (December, 2018), online at: <https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/ldc_list.pdf>.

¹³⁹ Grow Africa & Alliance for a Green Revolution in Africa (AGRA), *ECOWAS Rice Factbook* (Johannesburg: USAID, 2018) at 16.

¹⁴⁰ “Rice is King in West and Central Africa”, Editorial Article, WorldGrain.com, 25 January, 2016, online: <http://www.world-grain.com/articles/news_home/Features/2016/01/Rice_is_king_in_west_and_centra.aspx?ID=%7B644CFE73-DA23-4E1B-A810-88E7C2430195%7D&cck=1>.

2012; Nigeria spent 1.28 billion dollars in the same year.¹⁴¹ Data shows that in the period 2012-2017, importation of rice by ECOWAS countries soared to averages of 4 million metric tons (MMT) annually. Three West African countries (Nigeria, Senegal and Ivory Coast) were among the principal rice importing countries worldwide, with 5,200 metric tons imported annually.¹⁴² Reports estimate that between October 2016 to September 2017, in Burkina Faso, Ivory Coast, Mali, and Senegal, (West Africa's principal rice exporting countries) total rice production fell 3.7% to 4 MMT.¹⁴³ The resulting increase in rice imports leaves West Africa increasingly vulnerable to fluctuating global rice prices and puts their food security at risk.¹⁴⁴

Thirdly, because prices affect access to the quality and quantity of foods required for food security, increased global food prices make it more challenging for the average person in West Africa to maintain a balanced healthy diet.¹⁴⁵ This makes it imperative to review trade agreements being entered into by the region to ensure that they support and do not hinder sustainable growth and food security.

While the implications of international IP regulation for global food security have received much analysis, the implications of the regional IP and trade treaties for food security and sustainable development in West African countries has yet to be examined in depth. This research focuses on how patents, plant breeders' rights (PBR), traditional knowledge and informal

¹⁴¹ Paul Conton, "West African Rice Import Comparison", *The Sierra-Leone Magazine*, (14 January, 2016); USDA Foreign Agricultural Service, "2017 West Africa Rice Annual", Global Agricultural Information Network (*GAIN*) Report, 4/11/2017, at 3, [GAIN Report 2017]. Online at:

<https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Grain%20and%20Feed%20Annual_Dakar_Senegal_4-11-2017.pdf>, at 12-15; USDA-FSA, "Grain: World Markets and Trade", July 2016 Report, at 11-15.

¹⁴² Statista, "Principal rice importing countries worldwide in 2017/2018", The Statistics Portal, online: <<https://www.statista.com/statistics/255948/top-rice-exporting-countries-worldwide-2011/>>.

¹⁴³ USDA Foreign Agricultural Service, GAIN Report 2017, *supra* note 141.

¹⁴⁴ William G. Moseley, Carney Judith & Becker Laurence, "Neoliberal policy, rural livelihoods, and urban food security in West Africa: A Comparative Study of The Gambia, Cote d'Ivoire, and Mali" (2010) 107:13 *Proceedings of the National Academy of Science* (PNAS) of the United States of America, 5774-5779, at 5774.

¹⁴⁵ Emmanuel Oritsejafor, "Food Security in Sub-Saharan Africa: A Case Study" (2010) 4:1 *African Social Science Review* Article, 52-69, at 58-60.

inventions affect food security in West African countries and seeks to identify how regional IP regulation can be utilized to provide optimum support for sustainable development in the region.

A recent UNDP study states that Sub-Saharan Africa (SSA) has experienced encouraging economic growth averaging about 4.5 per cent with some non-oil-exporting countries reaching an average of more than eight per cent.¹⁴⁶ Despite this impressive economic performance, agricultural transformation has been slow and growth rather sluggish. Notably, productivity is still way below yield potentials, agricultural mechanization is weak and declining, and the state of the agribusiness industry is still nascent.¹⁴⁷ Recent moves by African governments and NGOs in Burkina Faso, Nigeria, and Senegal, to limit the use of genetically modified seeds in the cotton industry due to claims of lack of suitability of such products for sustainable use by and for the advancement of indigenous small and medium scale farmers, highlight the unsuitability of current IP systems to meet West African development.¹⁴⁸

At a time when an increasing number of countries are adopting regional agreements to regulate IPRs, this research will offer crucial insight into the interplay between patents, PBRs and other relevant IP laws and food security in the ECOWAS region. Currently, West African states are in the process of ratifying several new bilateral and multilateral trade agreements the provisions of which have implications for IP and food security.¹⁴⁹ If adopted, such agreements will either restrict or enhance the ability of West African countries to enforce food security objectives in relation to IPRs. With major economies in the region, such as Nigeria, yet to ratify the EPA due to

¹⁴⁶ Nicolas D. Chauvin, Francis Mulangu & Guido Porto, *Food Production and Consumption Trends in Sub-Sahara Africa: Prospects for the Transformation of the Agricultural Sector*, UNDP WP2012-011, February, 2012.

¹⁴⁷ *Ibid.*

¹⁴⁸ See Joe Bavier, “How Monsanto’s GM Cotton Sowed Trouble in Africa”, *Reuters Investigates* (8 December 2017); Krininger, *supra* note 64; and Simon Ferrigno, Daouda Traoré & Silvere Tovignan, “Power in West African Cotton Supply Chains”, Fair Trade Advocacy Office *Report*, Brussels, February 2016.

¹⁴⁹ Examples include the EPA; and the *Trade and Investment Framework Agreement between the Government of the United States of America and the Economic Community of West African States*, ECOWAS-USA, 5 August 2014 [TIFA].

a desire for more information as to possible consequences, this research is timely as it will provide much needed directions to countries in the region.

Previous research conducted regarding the effects of patents and PBRs on public interests in Africa has mainly focused on international IP regulations, in relation to the public health and biotechnology sectors.¹⁵⁰ Literature also exists that considers the effects of multilateral regulations on regional law and policies,¹⁵¹ and reviews national or regional IP regulations in Africa for their conformity to international standards.¹⁵²

The main drawback of previous studies has been that after analyzing the current state of laws, they have not gone on to develop an alternative policy framework for IP and food security for the continent's sub regions. Studies also conduct top-bottom analysis, which assesses African IP laws and policies based on pre-existing norms and standards contained in international IP agreements, thus narrowing the scope for considering alternative models. Also, by focusing on Africa as a whole, such literature doesn't adequately consider the variations in social, economic, and political interests across African countries. In contrast, this research adopts a critical approach to IP regulation, not presuming that previous norms or standards set at the international level will

¹⁵⁰ See Calestous Juma & Hezekiah Agwara, "African in the Global Economy: Strategic Options" (2006) 2:3-4 *International Journal of Technology and Globalization* 218; Philippe Cullet, "Plant Variety Protection in Africa: Towards Compliance with the TRIPS Agreement" (2001) 45:1 *Journal of African Law* 97; Bram de Jonge, "Plant Variety Protection in Sub-Saharan Africa: Balancing Commercial and Smallholder Farmers' Interests" (2014) 7:3 *Journal of Politics and Law* 100.

¹⁵¹ See Ikechi Mgbeoji, "The Comprador Complex: Africa's IPR Elite, Neo-Colonialism and the Enduring Control of African IPR Agenda by External Interests" (2014) *Osgoode Legal Studies Studies Research Paper* 32/2014; and Chidi Oguamanam, "Intellectual Property, Agricultural Biotechnology and the Right to Adequate Food: A Critical Perspective" (2015) 23:3 *African Journal of International and Comparative Law*, 503 [Oguamanam, IP, Agricultural Biotechnology and the Right to Adequate Food].

¹⁵² See George Sikoyo, Elvin Nyukuri & Judi Wakhungu, *Intellectual Property Protection in Sfrica: Status of Laws, Research and Policy Analysis in Ghana, Kenya, Nigeria, South Africa and Uganda* (Nairobi, Kenya: Acts Press, 2006); Law Student, "Patent and Intellectual Property Issues in Africa International Law", *Law Teacher.net* (2 February 2018). Online: <http://www.lawteacher.net/free-law-essays/international-law/patent-and-intellectual-property-issues-in-africa-international-law-essay.php?cref=1>.

inherently advance African development; and utilizes bottom-top analysis to draw up an alternative framework for regulating IP and food security specifically for the West African region.

While some analysis has been made of regional trade agreements (RTAs) in Africa,¹⁵³ in-depth analysis regarding the effects of West African RTAs on food security has not been conducted. The 2014 EPA between ECOWAS and the EU has yet to be comprehensively analyzed. ECOWAS has yet to put in place regional policies in relation to IP and food security. Though the relationship between food security and IPRs such as patents has been examined broadly, this research goes further to study the relationship in the context of a more cohesive group of countries, namely those in the West African region.

By designing a regional framework for IPR, relevant for advancing and sustaining food security in the ECOWAS region, this research makes an original contribution by providing ECOWAS states with a comprehensive model for developing future regional IP laws and policies that will advance food security in West Africa. This research provides important insights on how legal theories and principles may be contextualized and applied to regional IP regulations and policies, so as to integrate West Africa's food security interests.

Pre-existing ideas regarding IPRs in previous studies will be critically examined. Rather than limiting the analysis of subjects protectable by IPRs to formal inventions that take place in a scientific setting such as a laboratory, consideration will be made of how IPRs can be extended to cover traditional knowledge and unconventional innovations relevant to West African agriculture and food security. The question of what potential impacts the EPA will have on farmer's rights,

¹⁵³ See Adebambo Adewopo, "The Global Intellectual Property System and Sub-Saharan Africa: A Prognostic Reflection" (2002) 33:4 *University of Toledo Law Review*; Enyinna Nwauche, "An Evaluation of the African Regional Intellectual Property Rights Systems" (2003) 6 *The Journal of Intellectual Property*, at 137-138; and Dalindybo Shabalala, "Intellectual Property in European Union Economic Partnership Agreements with the African, Caribbean and Pacific Countries: What Way Forward After the CARIFOUM EPA and the Interim EPAs?", *Center for International Environmental Law (CIEL) Discussion Paper*, April 2008.

traditional knowledge and innovation, agroecology, and other areas linked to food security in West African countries, has yet to be critically examined. Analysis of this question will form a central part of this research.

Analysis is not limited to looking at how laws trickle down from the topmost multilateral level, but this research goes on to analyze how change occurs from the middle (regional) level in West Africa. Also, this research goes beyond analyzing the current international norms and practices for IP regulation, to consider alternative frameworks that are more suitable to advancing food security in the region.

By drafting a legal and policy framework suitable for advancing food security in ECOWAS countries, this study will be making a significant contribution in providing West African countries with an IP model that they can utilize for advancing food security in the region. None of the above studies analyzed the EPA specifically as it relates to IPRs that affect food security. Through its analysis of the EPA provisions that relate to IPRs, and their implications for food security (not just economics or trade) in ECOWAS states, this study will bring a fresh perspective to knowledge regarding the EPA.

The theoretical limitations of previous attempts to integrate IP and food security interests will be overcome by combining two legal theories: (i) an instrumentalist theory, under which IPRs are viewed as teleological instruments for advancing all the objectives of IP law, including public interests like food security; and (ii) A differential approach to designing IP regulation, that allows for IP laws and policies to be adapted to suit different contexts. These theories are analyzed in greater detail below in sections 1.7 and 3.4 of the thesis.

This research goes beyond reviewing how traditional knowledge and practices may be defended from encroachment by IPRs, to proffer a regional framework for advancing local

agricultural innovation in West Africa. Previous studies have focused on ensuring access to IP protected technology, as the portal from which innovation can be launched in African countries.¹⁵⁴ But considering the important role that traditional knowledge and unconventional inventions play in developing countries,¹⁵⁵ the focus of this study is on drawing up an IP policy that goes beyond protecting formal technology, to cater for informal inventions, traditional knowledge and local agricultural practices that are also relevant to food security in West Africa.

In proposing a regional policy framework for IPRs regulations that is more appropriate for integrating domestic food security interests in the context of West Africa's EPA, this research does not limit itself to analyzing the EPA, but goes further to scrutinize relevant provisions of inter-related regional agreements adopted by West African countries. This is an important contribution at a time when several free trade agreements, including the EPA, have yet to be ratified by the majority of West African countries, because the countries seem unsure as to the consequences of ratifying such agreements.¹⁵⁶ It will also grant ECOWAS states important directions on forming future regional strategies for regulating IPRs in relation to food security at a time when, despite the numerous regional agreements advocating the necessity of a policy for food security and IPRs in West Africa,¹⁵⁷ a regional policy has yet to be framed and adopted.

¹⁵⁴ UNESCO & AU, "Innovation and Technology Transfer for Enhanced Productivity and Competitiveness in Africa", background paper E/ECA/CM/47/4, AU/CAMEF/MIN/4(IX), 5 March 2014, paras 4-7; Nathaniel Agola, *Technology Transfer and Economic Growth in Sub-Saharan African Countries* (Berlin: Springer, 2016) at 7-8.

¹⁵⁵ Miguel Altieri, "Agroecology, Small Farms, and Food Sovereignty" (2009) 61:3 *Monthly Review* 102; Emmanuel Yiridoe & Vincent Anchirinah, "Garden Production Systems and Food Security in Ghana: Characteristics of Traditional Knowledge and Management Systems" (2005) 20:3 *Renewable Agriculture and Food Systems* 168.

¹⁵⁶ Examples include the African Regional Intellectual Property Organization [ARIPO] Agreements, which Nigeria has refused to ratify; The Plant Breeders' Bill; and the ARIPO PVP Protocol that have not been ratified by Ghana.

¹⁵⁷ See ECOWAS Commission, *Regional Agricultural Policy for West Africa: ECOWAP*, CEDAO and ECOWAS document for Paris Conference on the Regional Agricultural Policy for West Africa, 9 December 2008.

1.6 Research Objectives

The general aim of this research is to understand how the provisions in regional IP related agreements both explicitly and implicitly advance or compromise the realization of the food security goals of West African States. Provisions will be assessed based on whether they allow for effective application of instrumentalist and differential theories to IP regulations and policies in West Africa (these theories are discussed in detail in the following section). This will contribute in advancing knowledge of the relationship between IP regulations and food security specifically in the context of West Africa. It will also aid future law and policy negotiations and/or prescriptions in the region, to ensure that policies adopted enhance, rather than worsen, the food security status of West African countries.

While the provisions for IP protection are still few in the EPA, negotiations are currently taking place by ECOWAS and the African Union to further develop regional IP regimes. Thus, by analyzing the current provisions for IP protection in the EPA my research aims at providing important insight for African policy makers, policy makers, public actors, bureaucrats, technocrats, African govts, regional and sub-regional institutions involved in international trade negotiations(IP, TK and FS) with the outside world. It could serve as a resourceful material, one that contributes to how to develop IP related laws, processes and institutions that are compatible with their regional food security interests.

The thesis will focus on areas of IP regulation that have a direct bearing on food security in ECOWAS states, specifically patents and the protection of plant varieties through PBRs. Provisions that affect subsistence farmers and traditional agricultural processes will also be examined. The specific objectives of this research are to:

- Identify the food security objectives of the ECOWAS sub-region, and to specify the unique conditions affecting agriculture and food security in the region
- Identify and review provisions of the EU-ECOWAS EPA which embed IP provisions and how they support realization of food security in the ECOWAS sub-region.
- Identify IP provisions in relevant international and regional agreements (both TRIPS and TRIPS plus) that might promote and support the realization of the food security objectives of the ECOWAS sub-region
- Develop a conceptual framework that integrates IP policy and regulation with regional food security objectives to predict consequences of IP protection on national household food security in the ECOWAS sub-region, which can help to guide future negotiations and formulation of IP policies by the region; and
- Develop agenda for further and ongoing research on the relationship between IP and food security in the context of West Africa.

1.7 Theoretical Approaches

Analysis in the previous sections illustrates the existence of a divide between regulations for protecting IPR and the requirements necessary for advancing Food Security and Sustainable Development in the ECOWAS region. This section examines how the *Instrumentalist and Differential theories* of IP protection may be utilized to bridge that divide and provide norms for examining the suitability of multilateral and regional IP related agreements for supporting West African food security.

1.7.1 Instrumentalist Theory of IP

Instrumentalism views IPRs as privileges granted to attain certain socio-economic objectives, including food security.¹⁵⁸ The conception of IP law as a means to an end, rather than an end in itself, allows for teleological interpretation where the provisions of IP law are continually examined for their purpose and effect.¹⁵⁹ Instrumentalism, (also connoted by the term functionalism) encompasses “the view that a thing does not have a 'nature' or 'essence' or 'reality' apart from its manifestations and effects and apart from its relations with other things.”¹⁶⁰ In other words, instrumentalism involves assessing laws and policies based on the consequences/effects that they bring about.

Instrumentalism does not view IPRs as inherent and absolute rights, but as instruments designed to attain specific objectives.¹⁶¹ In other words, IPRs are “instruments of public policy which confer economic privileges on individuals or institutions solely for the purposes of contributing to the greater public good.”¹⁶² The grant of legal privileges being: “a means to an end, not an end in itself.”¹⁶³ Other theories hold that rights should be respected because it is fitting to do so, and not because of the good consequences that will flow from them.¹⁶⁴ By contrast, within an instrumental theory good consequences are the justification for promulgating and enforcing rights. As noted by the *Stanford Encyclopaedia of Philosophy*:

¹⁵⁸ Drahos, *A Philosophy of Intellectual Property*, supra note 65, at 199-223.

¹⁵⁹ Annelise Riles, “Property as Legal Knowledge: Means and Ends” (2004) 10:4 *Journal of the Royal Anthropological Institute* 775, at 789-790 [Riles, Property as Legal Knowledge].

¹⁶⁰ Felix S. Cohen, *The Legal Conscience: Selected Papers* (New Haven: Yale University Press, 1960) at 79-80.

¹⁶¹ Daniel Gervais, “Of Clusters and Assumptions: Innovation as Part of a Full TRIPS Implementation” (2009) 77:5 *Fordham Law Review*, 2353-2377.

¹⁶² Commission on Intellectual Property Rights [CIPR], *Integrating Intellectual Property Rights and Development* (London: CIPR, 2002) [CIPR Report] at 10.

¹⁶³ UNCTAD-ICTSD, *Resource Book on TRIPS and Development* (Cambridge: Cambridge University Press, 2005) at 10.

¹⁶⁴ For comprehensive analysis of alternative IP theories including Utilitarianism, Property, and Personality Advancement, see Drahos, *A Philosophy of Intellectual Property*, supra note 65; Stephan Kinsella, “Law and Intellectual Property in a Stateless Society” (2013) 5 *Libertarian Papers* 1; and Sell, *Private Power, Public Law*, supra note 28.

A status-based justification thus begins with the nature of the right holder and arrives immediately at the right. *The instrumental approach starts with the desired consequences (like maximum utility) and works backward to see which rights-ascriptions will produce those consequences.* Consequences, if grave enough, justify the qualification of individual rights. Instrumental theories describe rights as instruments for achieving an optimal distribution of advantages.”¹⁶⁵

The text of IP regulations is normally approached from the perspective of the individual right of the IP holder. However, if such provisions are not read top-down, but bottom-up, the functionalist nature of IPRs appears more clearly. For example, Article 7 TRIPS, titled ‘objectives’, states that IPR protection: “should contribute to the promotion of technological innovation and to the *transfer and dissemination of technology*, to the *mutual advantage of producers and users* of technological knowledge and in a manner *conducive to social and economic welfare*, and to a *balance of rights and obligations*.”¹⁶⁶ Similarly, under Article 8.1 TRIPS, principles, “Members may in formulating or amending their laws and regulations, adopt measures necessary *to protect public health and nutrition*, and to promote the *public interest* in sectors of vital importance to their *socio-economic and technological development*, provided that such measures are consistent with the provisions of this agreement.”¹⁶⁷

The language of Article 7 TRIPS clearly shows that IPRs are to achieve social as well as economic goals. The provision indicates that IPRs are not absolute rights, or an absolute form of property, but are rights which a country can adjust and place exceptions and limitations on for the greater public good. Also, the general principle allowing adaptations to IPRs for public interests (such a health and nutrition) in Article 8.1 indicate that public interest should be considered in

¹⁶⁵ Leif Wenar, *The Stanford Encyclopaedia of Philosophy* (Stanford: Stanford University, 2015) *sub verbo* “Rights” [Emphasis added]; Leif Wenar, “The Analysis of Rights”, in Mathew Kramer et al, eds, *The Legacy of H.L.A. Hart* (Oxford: Oxford University Press, 2008).

¹⁶⁶ TRIPS, Article 7 [Emphasis added].

¹⁶⁷ TRIPS, Article 8 [Emphasis added].

interpreting IP norms. These provisions grant room for flexible interpretation of IP regulations to ensure that they fulfill social, as well as economic goals. Moreover, states are permitted to grant compulsory licenses, where necessary to protect public health considerations. This approach allows for teleological interpretation and implementation of IP regulation, where not just the ordinary meaning, but the objects and purpose of a treaty are considered in interpreting its provisions.

Instrumentalism does not pit conflicting rights against one another, as in a human rights approach, and grant one right over another; but rather employs the principle of *integration*, to interpret IP regulation in a manner supportive of public policy goals of IP protection.¹⁶⁸ In applying an instrumentalist approach to IP law it must be acknowledged that IP law has several objectives. There is no uniform means by which to achieve these goals. This requires application of the principle of differentiation to allow for flexible design of IP policies.

The goal of this approach is to interpret a treaty in a way that gives scope to the fundamental reason or problem it was supposed to address. Apart from the socio-economic objectives stated in TRIPS Articles 7 & 8, the preamble to the Marrakesh Agreement of the World Trade Organization (WTO) directly refers to sustainable development as an objective of IP regulation. Under an instrumentalist approach, for IP regulation to fulfill the public interest and sustainable development objectives consideration must be made of whether the IP provisions limit farmers' access to seeds; the free circulation of plant genetic resources; the ability of local farmers to benefit from national genetic resources; and the development of new plant varieties from local genetic materials relevant for West African food security.¹⁶⁹

¹⁶⁸ Examples include TRIPS Articles 7 & 8; and Doha Declaration paras 5(a)-(d).

¹⁶⁹ Morten Haugen, Manuel Muller & S. Narashim, "Food Security and Intellectual Property Rights: Finding the Linkages" (2011) *Intellectual Property and Human Development: Current Trends and Future Scenarios* 103.

In implementing an instrumentalist IP regime, it is important to allow for differentiation as a tool for applying IP regulation to suit different contexts. For: “*much legal interpretation is geared to linking an unclear rule to a purpose and thus, by showing its positions within some system, to providing a justification for applying it in one way rather than in another.*”¹⁷⁰ While the overarching purpose and wording of multilateral IP regulations are effectively the same, the manner in which the law is to be applied to effectuate the purpose of a treaty will differ based on the context.¹⁷¹

1.7.2 The Differentiation Principle: a Tool for Instrumentalist Application of IP Laws and Policies

Differentiation is based on the theory that laws and policies cannot be assessed in a vacuum, but must be considered in the context to which they apply.¹⁷² The principle of differentiation states that the law should not be applied to parties that are dissimilar in the same manner, but must be interpreted and applied in a manner that recognises and accommodates such differences. This principle allows for more flexible interpretation of IP regulation, where not just the ordinary meaning, but also the specific context in which the law is applied, are taken into account in implementing its provisions.¹⁷³ This allows for IP regulation to be applied in different ways in order to achieve diverging goals.

¹⁷⁰ UN Gen. Ass., *ILC Study Group Report*, 58th Session, 13th April, 2006, A/CN.4/L, 682, at 23, para. 34.

¹⁷¹ Shann Kerner *et al.*, “Examples Requirements for Patentability of Inventions in U.S. and Foreign Jurisdictions” (2009) 3:36 *Bloomberg Law Reports-Intellectual Property*, at 1.

¹⁷² Joyeta Gupta & Nadia Sanchez, “Elaborating the common but differentiated principle in the WTO”, in Marie-Claire Segger & C.G. Weeramantry, eds., *Sustainable Development in the Decisions of International Courts and Tribunals: 1992-2012* (New York: Routledge, 2017) 425-441, at 425 [Gupta & Sanchez, Elaborating the common but differentiated principle in the WTO].

¹⁷³ Wei Zhuang, *Intellectual Property Rights and Climate Change: Interpreting the TRIPS Agreement for Environmentally Sound Technologies* (Cambridge: Cambridge University Press, 2017) 80-81 [Zhuang, IPR and Climate Change].

The WTO TRIPS Agreement provides for differential application of IP regulation in sectors like public health and biodiversity, developing countries and LDCs, and in implementation of the treaty.¹⁷⁴ The goal of differentiation is to promote equity and substantive equality between developing and developed countries, so as to give effect to IPRs objectives, rather than mere formal application of the law.¹⁷⁵

TRIPS Article 27.1 permits differentiation, for food security purposes, where the diffusion of certain plant technologies, such as the sterilization of seeds, may have negative effects on health or the environment. TRIPS Article 27.3(b) contains a specific exception that is linked to biological processes relevant to agricultural production. The provision allows the exclusion from patentability of "essentially biological processes" for the production of plants. In the absence of any definition in TRIPS itself, the exclusion for plant production can be interpreted in broad terms, inclusive of plants as well as plant varieties and species. Countries that opt to implement this exception may exclude plants, whether obtained through conventional breeding processes or through the use of genetic engineering, from IP protection.¹⁷⁶

Article 27.2 TRIPS provides for the possibility of refusing patents for inventions the commercial exploitation of which is "necessary to protect public order or morality, including to protect *human, animal or plant life or health* or to avoid serious prejudice to the *environment*."¹⁷⁷ The Doha Declaration on TRIPS and Public Health affirms that the TRIPS Agreement allows for differential implementation of its provisions in order to promote public health.¹⁷⁸ Though the Declaration is not legally binding, as a subsequent WTO agreement, it confirms the need for

¹⁷⁴ TRIPS arts 27, 30, 66, 67.

¹⁷⁵ Zhuang, *supra* note 173.

¹⁷⁶ Correa, "TRIPS Flexibility for Patents and Food Security", *supra* note 47.

¹⁷⁷ [Emphasis added].

¹⁷⁸ *Doha Declaration*, Paras 1-7.

flexible and balanced interpretation of IP regulations and policies so as to advance food security as a component of public health.

Article 27.3(b) TRIPS makes the provision of some form of protection for plant varieties mandatory but does not impose a specific framework by which such protection should be granted. This allows countries flexibility to adopt *sui generis* frameworks specifically designed to regulate PVP domestically. This provides developing countries an opportunity to develop IP laws and policies relating to plant varieties that take into account food security interests at the national level and state's commitments to other international agreements.

Under differentiation, IP norms can be adapted by developing countries to suit their contexts.¹⁷⁹ Such differentiation will not amount to discrimination, for paras 44 and 50 of the Doha Declaration institutes the principle of special and differential treatment for developing and least developed countries as part of the WTO Agreements. A glance at contemporary jurisprudence indicates that countries are becoming more adoptive of such flexibilities. For example, India has adopted this line of reasoning in revoking claims of patent infringement.¹⁸⁰ Similarly, in South Africa the *Monsanto case*¹⁸¹ considered whether alpha tocopherol acetate, a synthetic Vitamin E, is an "oil" within the meaning of the term as used in the patent regulation. If it was, the respondent was infringing the patent. In its decision the South African Supreme Court held the patent to have been infringed because the substance in dispute fulfilled the same objective as an oil, though it did not fulfill the technical description of the term in the regulation. In effect the court adopted a contextual and purposive approach to statutory interpretation. As South Africa's Supreme Court

¹⁷⁹ Rochelle Dreyfuss & Susy Frankel, "From Incentive to Commodity to Asset: How International Law is Reconceptualizing Intellectual Property" (2015) 36:4 *Michigan Journal of International Law* 557, at 565-566.

¹⁸⁰ See Lynne Taylor, "India Revokes Roche's Patent on Pegasys", *Pharma Times Digital Magazines* (5 November 2012), online: <http://www.pharmatimes.com/news/india_revokes_roches_patent_on_pegasys_976312> (assessed: 28 July 2015). [Taylor, India Revokes Roche's Patent on Pegasys].

¹⁸¹ *Monsanto Co v MDB Animal Health (Pty) Ltd (formerly MD Biologics CC)*, 2001 (2) 887 (SCA).

emphasized in another decision, “A patent specification should be given a purposive construction rather than a purely literal one.”¹⁸²

Adoption of the contextualization principle in international IP regulation is demonstrated by the fact that special forms of legal protection have been recommended in the WTO’s Doha Declaration to protect public health. IP agreements are also interrelated with various other multilateral treaties, whose interests may require different interpretations and contextualisation of IP rules. It is important to remember that there has been a reluctance to utilize TRIPS flexibilities in IP jurisprudence, due to state’s lack of political will and the economic influence of process by multinational corporations, which indicates that making them effective will require more than just regulations.¹⁸³ However, such political and economic challenges are surmountable by countries through adopting strategic IP policies.¹⁸⁴

Previous studies indicate that patents and PBRs only aid development when certain contextual conditions exist. Consequently, the optimal method for applying IP regulation to advance food security will vary based on the socio-economic development levels of each country.¹⁸⁵ In order to integrate different interests, an IP system must provide countries with flexibility as to how they meet their patent obligations. Differentiation necessitates consideration of general international law covering human rights, sustainable development, and biodiversity in

¹⁸² See *Aktiebolaget Hassle & Astrazeneca Pharmaceuticals Ltd vs. Triomed Ltd* (2002) The Supreme Court of Appeal of South Africa, 63/2002, at par. 8.

¹⁸³ Keith E. Maskus & Jerome H. Reichman, “The Globalization of Private Knowledge Goods and the Privatization of Global Public Goods” (2004) 7:2 *Journal of International Economic Law*, 279 at 286-287.

¹⁸⁴ Jerome H. Reichman, “Compulsory Licensing of Patented Pharmaceutical Inventions: Evaluating the Options” (2009) 37:2 *Journal of Law, Medicine & Ethics*, 247 at 249-250 [Reichman, Compulsory Licensing]; Keith E. Maskus & Jerome H. Reichman, “The Doha Round’s Public Health Legacy: Strategies for the Production and Diffusion of Patented Medicines under the Amended TRIPS Provisions” (2007) 9:1 *Journal of International Economic Law*, 921.

¹⁸⁵ Antony S. Taubman, “TRIPS jurisprudence in the balance: Between the realist defence of policy space and a shared utilitarian ethic” in Christian Lenk et al, eds, *Ethics and law of IP: Current problems in politics, science and technology* (Burlington, VT: Ashgate, 2007) 89-120.

interpreting IP provisions. The need for a holistic interpretation was emphasised by the report of the UN Special Rapporteur on the right to food, where he proposes agroecology as a solution to global food security challenges.¹⁸⁶

In relation to food security, applying the differentiation principle in drafting frameworks for IP regulation offers the following advantages: Firstly differentiation grants countries the prospect of moving from focusing on the benefits to be obtained from the commercial exploitation of new varieties of plants, to considering important public interest objectives like the attainment of local, national, and regional food security, by adopting measures to increase food production, diversity, and equitable systems for food distribution. Secondly, under differentiated regimes countries can integrate their interests and obligations under other relevant treaties like the CBD, ITPGRFA and ICESCR. Such interests include the promotion of plant varieties adapted to local climate conditions, social contexts, and culinary preferences. Thirdly, differentiated regimes provide an opportunity to go beyond the rights framework provided under TRIPS, to allow consideration and enforcement of rights relevant to food security such as farmers' rights, the protection of traditional knowledge, and access and benefit sharing schemes.¹⁸⁷

TRIPS also provides for differentiation through exceptions to IP law. For example, Article 30, the general exception clause, may be interpreted in accordance with customary principles of interpretation provided in Article 31 of the Vienna Convention on the Law of Treaties (VCLT), to permit governments to introduce exceptions to IPRs, suitable to accomplish the multiple social,

¹⁸⁶ Schutter Report 2010, *supra* note 12.

¹⁸⁷ Philippe Cullet, *Food Security and Intellectual Property Rights in Developing Countries* (Geneve: RIBios et IUED, 2004), at 56-57.

economic, and environmental objectives of the agreement, including interests connected with human rights like the right to food and food security.¹⁸⁸

TRIPS allows for special and differential treatment of countries based on their classification as developing countries and LDCs. Article 66 grants least developed countries (LDCs) extra time within which to adopt TRIPS obligations and calls for WTO developed countries to provide incentives to companies and institutions in their territories, so as to encourage technology transfer to the LDCs. Also, Article 67 TRIPS obliges the developed member states to provide technical and financial support to developing and least-developed countries, in order to execute the agreement.

Under Article 1.1 of the TRIPS agreement WTO Members may adopt different interpretations, in their national law and practice, of concepts that the TRIPS Agreement simply enunciates but does not define. Examples of such flexibilities include concepts such as novelty and inventiveness; or of situations of extreme urgency for the purposes of compulsory licenses.¹⁸⁹ Articles 7 & 8(1) TRIPS affirm that IPRs are granted to achieve certain public purposes. As the food security objectives of countries differ, these provisions allow for some variation between states in applying IP protection.

The above provisions emphasize the acceptance of differentiation in international IP regulations, and the need not to treat all subjects or objectives of IP law in a similar manner. The first question that will come to mind is whether such an approach can be integrated with the need for consistency and predictability in international law? The first response to this question is that

¹⁸⁸ Edson B. Rodrigues Jr, *The General Exception Clauses of the TRIPS Agreement: Promoting Sustainable Development* (Cambridge: Cambridge University Press, 2012) at 327 [Rodrigues, TRIPS General Exception Clauses].

¹⁸⁹ WIPO, "Advice on Flexibilities Under the TRIPS Agreement" online: <http://www.wipo.int/ip-development/en/legislative_assistance/advice_trips.html>.

where differentiations are made to allow the law to function in changing contexts, such variations are not against the consistency requirement.¹⁹⁰ Secondly, IP regulation requires the recognition and equal consideration of other rights contained in non-IP regimes. Because the relationship between international agreements is constantly changing, this justifies the adoption of dynamic legal frameworks.¹⁹¹ The second question that will come to mind is how can the various soft and hard laws that govern IP and food security related interests be combined in a differentiated approach? The thesis posits that while soft laws are not binding upon states, they can be drawn upon because they reflect the consensus and aspirations of states on issues. Though all laws do not carry equal weights, they are still relevant for consideration in shaping differentiated IP frameworks. The manner in which this may be done is analyzed in sections 2.4 and 3.4 of the thesis.

Considering the unique nature of the factors necessary for food security in West African countries, it is important to allow for differential application of IPRs for food security purposes. Chapter two examines in detail how much scope is provided for differentiation in the international IPRs regime.

1.7.3 Research Methods and Methodology

This research is primarily based on the legal doctrinal methodology, with analysis focusing on the international and regional legal frameworks on IPRs and food security in the West African context. It involves a rigorous systematic exposition, analysis, and critical evaluation of legal regulations; the principles, policies, and doctrines on which they are founded; and the inter-relationships among

¹⁹⁰ Henning G. Ruse-Khan, "Policy Space for Domestic Public Interest Measures Under TRIPS" (2009) 21 *South Centre Research Papers*, at 5.

¹⁹¹ Ruth Meinzen-Dick & Rajendra Pradhan, "Legal Pluralism and Dynamic Property Rights" (2002) *CAPRI Working Paper no.22*.

them.¹⁹² An interdisciplinary research method was also used and examination made of relevant socio-economic and scientific literature, in order to determine the practical implications that current IP regulations will have for food security in the West African context. It must be acknowledged that issues relating to food security cover a multitude of areas, including trade law, IP, biodiversity, sustainable development and traditional knowledge. This thesis adopts an interdisciplinary method of research to examine those topics. However, the primary goal of the thesis is a legal analysis of issues, hence the primary tool employed is doctrinal analysis of relevant laws. The thesis does not attempt to conduct a heavily doctrinal or social analysis, but rather integrates analysis of the relevant social and legal issues, in a manner that bridges IP law, international economic law and food security in West Africa.

The following categories of laws will form the primary sources for this study: Firstly, multilateral IP agreements, principally the TRIPS, Doha Declaration, the UPOV, and the WIPO Development Agenda. Secondly, Non-IP agreements relating to the right to food, food security, plants and genetic resources, namely the CBD and related Nagoya Protocol; the ITPGRFA; the UDHR; ICESCR, and SDGs. Thirdly, continental and regional agreements relevant to IP, trade and food security that are applicable to West Africa including the Cotonou Agreement¹⁹³, the *Organisation Africaine de la Propriété Intellectuelle*'s, (OAPI) revised agreement¹⁹⁴, the Organization of African Unity's (OAU) Model Law¹⁹⁵, The African Regional Intellectual Property

¹⁹² Paul Chynoweth, "Legal Research", in Andrew Knight & Les Ruddock, eds, *Advanced Research Methods in the Built Environment* (Oxford: Oxford University Press, 2008) 28, at 29.

¹⁹³ *Cotonou Agreement*, 23rd June, 2000, Official Journal of the European Communities, 15.12.2000, L 317/3.

¹⁹⁴ OAPI, *Agreement Revising the Bangui Agreement of March 2, 1977, on the Creation of an African Intellectual Property Organization* (Bangui, Central African Republic, February 24, 1999).

¹⁹⁵ *African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources*, OAU Model Law, Algeria, 2000.

Organization (ARIPO) Agreement,¹⁹⁶ The Arusha Protocol of ARIPO,¹⁹⁷ The Swakopmund Protocol of ARIPO, The ECOWAS Revised Treaty,¹⁹⁸ The African Growth and Opportunity Act (AGOA),¹⁹⁹ the proposed Pan African Intellectual Property Organization (PAIPO) statute,²⁰⁰ and the ECOWAS' EPA.

In applying the instrumentalist theory, analysis is made of the drafting history, procedures and policy considerations underlying relevant treaty provisions. Critical legal doctrinal analysis is adopted which goes beyond stating what the law is on a particular issue, to appraising the adequacy of existing rules in fulfilling set objectives, and proposes amendments to any regulations and policies found wanting.²⁰¹ This will involve examination of relevant regulations, interpretative jurisprudence, and inter-disciplinary literature reviewing the development and application of IP regulations and policies to food security in West Africa, and helps in predicting how laws and policies should proceed in the future. Other rights that are interrelated with, and will likely impact on food security, such as human rights, traditional knowledge, and farmers rights will also be analyzed, so as determine their potential overlaps with IP regulation and how these may be resolved.

Doctrinal analysis is best suited for this research, as it will enable detailed examination of the current framework of legal instruments regulating Intellectual Property Rights (IPRs) and food security. This will be useful in clarifying the current state of the law, in defining relevant concepts,

¹⁹⁶ *Agreement on the Creation of the African Regional Intellectual Property Organization*, Lusaka, 9th December 1976.

¹⁹⁷ *Arusha Protocol for the Protection of New Varieties of Plant within the Framework of ARIPO*, Arusha, 6th July 2015.

¹⁹⁸ ECOWAS Revised Treaty, ECOWAS Commission, Abuja, 2010, Treaty No.14843.

¹⁹⁹ *US Trade and Development Act*, 2000, Public Law 106-200 May 18 2000.

²⁰⁰ *Statute of the Pan African Intellectual Property Organization*, African Union Members, Extraordinary Session of the African Ministerial Conference on Science and Technology [AMCOST], 15-18 April, 2014, Brazzaville, The Republic of Congo, Doc No AU/MIN/CONF V/ST/2 (II) EN, Ex-C1/839/Annex 3 [PAIPO].

²⁰¹ Terry Hutchinson, "The Doctrinal Method: Incorporating Interdisciplinary Methods in Reforming the Law" (2015) 3 *Erasmus Law Review*.

and will contribute to a more holistic comprehension of the diversities of underlying legal paradigms that shape law and policy. It will provide a basis for building on current laws and for identifying gaps and weaknesses in present regulation that require the development of alternative laws and policies.²⁰² Doctrinal analysis is also important as it will ensure continuity in the law. Proposed policy reforms will be based on justifiable legal principles, which will give them more relevance. Analysis is conducted in the following steps:

Firstly, relevant literature and jurisprudence analyzing the relationship between patents, PBR and food security are reviewed. Doctrinal examination is also made of the multilateral legal framework relating to IPRs and food security. Secondly, special conditions that determine the relationship between food security and IPRs in the ECOWAS region are reviewed. Based on the latter, a summary of legal norms and principles will be synthesized to form a policy framework that will support the advancement of food security in West African countries. Thirdly, critical doctrinal analysis will be made of the current law and policy framework contained in the EU-ECOWAS EPA, and other relevant regional agreements, to identify what provisions are put in place that affect food security and IPRs. Subsequently the EPAs provisions will be compared with the legal principles previously identified in sections 1.7 and 3.4 as useful for advancing food security in West Africa. Fourthly, conclusions are drawn as to whether the EPAs provide the most effective framework for West African countries to actualize regional food security; and suggestions made on possible changes for enhancing the effectiveness of EPAs for food security in the region.

²⁰² Denis Galligan, “Review Essay, Having One’s Cake and Eating it: the Paradox of Contextualisation in Socio-Legal Research” (2011) 7:4 *International Journal of Law in Context* 487, at 488-489 [Galligan, Paradox of Contextualisation].

Chapter Two: Multilateral Regulation of IP and Food Security Applicable to West Africa

Having identified the need for applying differential and functionalist principles for IP law to effectively support food security in West Africa in the first chapter, this chapter analyses how much room is given for applying the principles in multilateral IP regulations. It considers whether existing flexibilities in multilateral IP regulations are sufficient for accommodating the specialties for food security in the West African context. The chapter also examines how potential conflicts between norms and systems for IP protection and the principles of differentiation and instrumentalism may be resolved.

2.1 Relevance of the Multilateral Framework

Because countries must consider previous agreements in negotiating new agreements, the provisions of multilateral treaties will influence IP regulation at the regional level. Multilateral agreements relating to IPRs, plants, biodiversity and genetic resources in many cases provide the initial framework on which regional IP laws and policies are developed. Some of the recent changes in IP laws in African countries have been traced to attempts to conform to multilateral standards of TRIPS or the UPOV.²⁰³ Consequently, multilateral treaties play an influential role in determining subsequent policy space for domestic and regional implementation of IP regulations. For example, TRIPS provides for minimum standards of IP protection, which signatory countries must implement. In its Preamble and Articles 7 & 8 TRIPS also establishes certain objectives for

²⁰³ Thaddeus Manu, “Self-defeating Reasons for Signing the African Growth and Opportunities Act: Analyzing the Pressure on African Countries to Enact UPOV Convention Plant Breeders’ Rights as Opposed to Effective *Sui Generis* Regimes under TRIPS” (2015) 44:1 *Common Law World Review* 3 [Manu, Reasons for AGOA]

IP protection, flexibilities and balancing of interests between private and public rights, which must be kept in mind in advancing IP regulations.

International non-IP agreements contain norms that apply in interpreting and implementing agreements at other levels. The Universal Declaration of Human Rights (UDHR), for instance, is based on the idea that certain rights are more important than others and cannot be interfered with. Similarly, general principles of international law exist, which may be applied in resolving conflict of laws between treaties. The following section analyzes the procedural and substantive provisions of relevant multilateral agreements in order to understand: the relationship between food security and IP protection; how multilateral agreements influence and are influenced by regional treaties; and how overlaps and differences between multilateral treaties regulating IP and food security may be integrated in a harmonious way.

2.2 Food Security (FS) in Multilateral IP Agreements

2.2.1 The Paris and Berne Conventions, and the WTO-WIPO Agreement

Negotiated by a group of mostly developed countries, the Paris Convention on the Protection of Industrial Property (Paris Convention) covers industrial property, including patents, trademarks, utility models, and geographical indications.²⁰⁴ The desire for more harmonized multilateral copyright regulation led to the formulation and adoption by 173 parties in 1886, of the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention),²⁰⁵ an international agreement governing copyright. The agreement provides minimum standards for

²⁰⁴ *Paris Convention on the Protection of Industrial Property*, Paris, 20 March 1883, as amended 28 September 1979, 828 UNTS 306 [Paris Convention].

²⁰⁵ *Berne Convention on the Protection of Literary and Artistic Works*, Berne, 9 September 1886, as amended 28 September 1979, 1161 UNTS 30 [Berne Convention].

copyright protection, which all signatory countries should comply with, granting authors, musicians, poets, and artists legal rights to determine how their works are used, by whom, and on what terms. The Berne and Paris Conventions remain relevant to the multilateral IP regime, having been incorporated into the TRIPS agreement in Article 2:2 of TRIPS, which specifies that nothing in Parts I to IV of the agreement shall derogate from existing obligations that members may have to each other under the Paris Convention, the Berne Convention, the Rome Convention and the Treaty on Intellectual Property in respect of integrated circuits.

The Paris and Berne Conventions saw the creation of international secretariats, which were merged in 1893 to form the United International Bureaux for the Protection of Intellectual Property (known by the French acronym of BIRPI).²⁰⁶ In a 1967 treaty, BIRPI was superseded by a new organization, the World Intellectual Property Organization (WIPO), which became a specialized agency of the United Nations in 1974, and is one of the main global organizations administering multilateral IP regulations.²⁰⁷

Following the adoption of the WTO-TRIPS Agreement, WIPO sought to increase its global relevancy by negotiating agreements dealing with issues resulting from new technologies not addressed under previous agreements. Adopted in 1996, the WIPO Copyright Treaty (WCT) was one of such treaties, which deals with the protection of works and the rights of their authors in the digital environment.²⁰⁸

²⁰⁶ BIRPI is the acronym for *Bureaux Internationaux Réunis pour la Protection de la Propriété Intellectuelle* (French for "United International Bureaux for the Protection of Intellectual Property").

²⁰⁷ Peter Drahos, "The Universality of Intellectual Property Rights: Origins and Development", in WIPO & Office of the United Nations High Commissioner for Human Rights (OHCHR), *Intellectual Property Rights and Human Rights* (Geneva: WIPO, 1999) WIPO publication no.762(E), 11, at 17-18; Ruth Okediji, "WIPO-WTO Relations and the Future of Global Intellectual Property Norms" (2008) 39 *Netherlands Yearbook of International Law*, 69, at 75 [Okediji, WIPO-WTO Relations].

²⁰⁸ WIPO Copyright Treaty, adopted Dec. 20, 1996, WIPO Doc. CRNRIDC/94 [WCT]. The WCT is a special agreement under Article 20 of the Berne Convention.

While copyrights and industrial property, the main subjects of the Berne and Paris Conventions and the WCT, are not relevant to this research, the provisions for exceptions and limitations (E&Ls) to IPRs contained in the conventions remain pertinent in discussing IP and food security. The most significant provision is the general exception to IPRs known as the three-step test, contained in Article 9(2) of the Berne Convention, which forms the basis for the general exception clause found in Article 30 TRIPS, and is applied in WTO jurisprudence.²⁰⁹

Generally, the three-step test allows exceptions or limitations to copyrights provided that they:

- (i) are limited or confined to certain special cases;
- (ii) do not unreasonably conflict with the normal exploitation of the protected subject matter; and
- (iii) do not unreasonably prejudice the legitimate interests of the rights holder.²¹⁰

These three conditions apply cumulatively and the test consists as a single analytical whole.

The three-step test emphasizes that copyright protection (and the protection of other IPRs) is founded on the principle of balancing the goal of copyright protection with the public interest objectives of IP regulation.²¹¹ It also highlights the important role that exceptions and limitations

²⁰⁹ Examples of WTO jurisprudence analyzing the three-step test and WIPO agreements include: *United States-Section 110 (5) of the US Copyright Act* (2000), WT/DS160/R (Panel Report); *Canada – Term of Patent Protection*, (2000), WT/DS170/AB/R at para 54 (Appellate Body Report); and *Canada – Patent Protection of Pharmaceutical Products* (2000), WT/DS114/R (Panel Report).

²¹⁰ TRIPS Article 13, Berne Convention Article 9(2); and WCT Article 10(1-2). It must be pointed out that while some variations exist in the form of the three-step test in the three agreements (In the Berne Convention it applies only to reproduction, while in TRIPS and the WCT it applies to all copyrights contained in the treaties), the substance of the test remains the same.

²¹¹ Christophe Geiger, “The Three-Step Test Revisited: How to Use the Test’s Flexibility in National Copyright Law”, (2013) *Program on Information Justice and Intellectual Property* (PIJIP) Research Paper 2013-04, at 6-11.

(E&Ls) play as a balancing tool for attaining IP objectives.²¹² The “certain special cases” requirement contained in the first step implies that an exception or limitation in regional or domestic regulations must be clearly defined as to purpose, subject matter and usage and be narrow in its scope and reach.²¹³ In WTO jurisprudence the criterion of normal exploitation in the second step has been interpreted to include consideration of the forms of exploitation that currently generates an income for the author, as well as those which were likely to be of importance in the future.²¹⁴ The third step of the test offers more flexibility for the balancing of competing interests. Only legitimate interests are to be factored into the equation. Such legitimacy is context-dependent.²¹⁵ The test indicates the need for a certain flexibility to be held by countries at the national level in adapting E&Ls to IPRs in response to technological changes.²¹⁶

It is important to note that the text of Berne Article 9(2) was not adopted into Article 30 of the TRIPS Agreement without change. Whereas the final condition in Berne Article 9(2) ('legitimate interests') simply refers to the legitimate interests of the author, the TRIPS negotiators added in Article 30 the instruction that account must be taken of 'the legitimate interests of third parties.' The Panel in *Canada-Pharmaceutical Patents* clarifies that 'legitimate interests' requires consideration not just of legal interests, rather “as a normative claim calling for protection of interests that are 'justifiable' in the sense that they are supported by relevant public policies or other

²¹² Patrick R. Goold, “The Interpretive Argument for a Balanced Three-Step Test” (2016) 33:1 *American University International Law Review*, 187, at 189.

²¹³ Christophe Geiger, “The Role of the Three-Step Test in the Adaptation of Copyright Law to the Information Society”, UNESCO, *Doctrines and Opinions*, e-Copyright Bulletin January-March 2007, at 5.

²¹⁴ *United States-Section 110 (5) of the US Copyright Act*, WT/DS160/R, (Panel Rep. of 15 June 2000) par. 6.180.

²¹⁵ Geiger, *supra* note 189, at 15.

²¹⁶ Christophe Geiger, Daniel J. Gervais & Martin Senftleben, “The Three-Step Test Revisited: How to Use the Test’s Flexibility in National Copyright Law”, (2014) 29:3 *American University International Law Review*, 583 at 597-607.

social norms.”²¹⁷ Based on this interpretation, as third parties the food security interests of West African countries should be given consideration when making exceptions to patent rights, as they are justifiable under the human right to food, the right to development and SDGs.

In light of the difference in the text of Article 9.2 of the Berne Convention and Article 30 TRIPS, this thesis suggests that exceptions under the latter provision require more holistic consideration of all three components of the test in a "comprehensive overall assessment that takes into account the threats that excessive levels of [patent and PBR] protection pose to human rights and fundamental freedoms, interests in competition, and other public interests, notably in [agricultural] progress and cultural, social, or economic development" in addition to the interests of IPR holders in seeking fair compensation.”²¹⁸ Contemporary literature shows that holistic interpretation of Article 30 TRIPS, is especially important in Africa in developing exceptions for food security, to protect human rights and public health.²¹⁹ Article 30 TRIPS is discussed in greater detail in the following section.

While the WTO is currently the dominant organization governing multilateral IP regulation, WIPO has influenced the adaptation of some regional IP agreements in Africa, most notably the African Union’s Pan African Intellectual Property Organization (PAIPO).²²⁰ Therefore, provisions

²¹⁷ *Canada – Pharmaceutical Patents*, (Panel report) para. 7.61 and para. 7.68; WTO Analytical Index, “TRIPS Agreement Article 30 Jurisprudence”, online at: https://www.wto.org/english/res_e/publications_e/ai17_e/trips_art30_jur.pdf.

²¹⁸ Adapted from the MPI Declaration, “A Balanced Interpretation of the ‘Three-step Test’ in Copyright Law”, 1 September 2008 ATRIP Conference Munich, para.6, at 2 and 5. Online at: https://www.ip.mpg.de/fileadmin/ipmpg/content/forschung_aktuell/01_balanced/declaration_three_step_test_final_english1.pdf.

²¹⁹ For examples of strategies for Africa see Emeka Amechi, “Leveraging Traditional Knowledge on the Medicinal Uses of Plants within the Patent System: The Digitisation and Disclosure of Knowledge in South Africa” (2015) 18:1 *Potchefstroom Electronic Law Journal*, at 3072-3075; and UN-Economic Commission for Africa (UN-ECA), *Assessing Regional Integration in Africa VIII: Bringing the Continental Free Trade Area About* (Addis Ababa, Ethiopia: UN-ECA, 2017) at 148-157 [ARIA VIII].

²²⁰ Susan I. Strba, “Legal and Institutional Considerations for Plant Variety Protection and Food Security in African Development Agendas: Solutions from WIPO?” (2017) 12:3 *Journal of Intellectual Property Law and Practice*, 191, at 194-195 [Strba, Legal and Institutional Considerations for PVP].

in WIPO Agreements acknowledging the need for IP regulation to advance social objectives like food security and health could be cited by Africa in justifying the adoption of norms and exceptions to advance food security in future IP regulations.²²¹

Relations between the WTO and WIPO are governed by provisions within both treaties and the WIPO-WTO Agreement.²²² The latter treaty, along with the preamble to TRIPS, does not designate any formal hierarchy between the organizations, rather they are to be mutually supportive. However, WTO treaties, due to the wider scope of IPRs covered, the large number of countries that are WTO members, and the opportunity for enforcement using the WTO's dispute settlement system, have a wider impact. Moreover, the incorporation of the Berne Convention in Article 9(1) TRIPS, along with provisions not to derogate from the Berne and Paris Conventions, in Articles 1(2) WCT and Articles 2(1) and 2(2) TRIPS, allows for the convention's provisions to be interpreted within the dispute settlement system of the WTO.

The wide range of flexibilities adopted in TRIPS makes it desirable to uphold a hierarchy of WTO over WIPO treaties, in West African countries seeking to implement TRIPS flexibilities to support food security, for two reasons: Firstly, the WTO TRIPS Council is the product of a negotiated process. By allowing for a wider range of countries to participate, there is more room for the views of developing countries to be heard without the political pressure characteristic of bilateral negotiations, thus encouraging development of more equitable rules imbued with a level of legitimacy to which states might feel compelled to adhere. The WTO benefits from the viewing of IPRs as legal instruments to advance development, and the perception that states create international organizations to solve problems that they cannot solve alone.²²³ This functional

²²¹ Okediji, WIPO-WTO relations, *supra* note 207, at 75.

²²² *Agreement between WIPO and WTO*, WIPO-WTO, 22 December 1995, (1996) 35 ILM 754.

²²³ Okediji WIPO-WTO Relations, *supra* note 207, at 112.

approach to IP is adopted in the Doha Declaration, which states that “the TRIPS Council shall be guided by the objectives and principles set out in Articles 7 and 8 of the TRIPS Agreement and shall take fully into account the development dimension.”²²⁴ The TRIPS Council has also acknowledged the relevance of non-IP agreements protecting traditional knowledge and biodiversity in interpreting TRIPS, giving more room for considering relevant food security provisions.²²⁵

Secondly, the WTO offers a wide range of mechanisms to address and resolve issues. These include allowing the adoption of sui generis systems to protect plant varieties, diplomacy in its monitoring activities, sanctions through the dispute resolution process, and the exercise of discretion to broker compromises that could ease long-term resistance to adopting TRIPS flexibilities into regional trade and bilateral agreements.²²⁶

2.2.2 The WTO-TRIPS Agreement

The main international treaty regulating intellectual property rights (IPRs) is the World Trade Organization’s (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS).²²⁷ The TRIPS agreement establishes uniform minimum standards of IPRs to be adopted in all WTO states.²²⁸ Because it is subject to the WTO’s dispute settlement understanding (DSU), TRIPS provisions can be enforced through litigation and trade sanctions. This gives them added

²²⁴ WTO, *Doha Ministerial Declaration*, WT/MIN(01)/DEC/1, 20th November 2001, (adopted on 14th November, 2001) para 19 [Doha Declaration].

²²⁵ *Ibid.* Para. 19 instructs the TRIPS Council to examine, “the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments raised by members pursuant to Article 71.1.”

²²⁶ Okediji WIPO-WTO Relations, *supra* note 207, at 113.

²²⁷ *The Agreement on Trade Related Aspects of Intellectual Property Rights*, WTO Members, 15 April 1994, Annex 1C of the Marrakesh Agreement establishing the WTO, Articles 1-5 (entered into force 1 January 1995) [TRIPS].

²²⁸ TRIPS Article 1.1.

weight in international litigation.²²⁹ TRIPS incorporates some of the main international agreements of the World Intellectual Property Organization (WIPO) that already existed before the WTO was created, including the Paris and Berne Conventions.²³⁰ But TRIPS covers additional areas of IP and introduces higher standards of protection than provided under the two WIPO treaties.²³¹

The following TRIPS provisions justify legal consideration of food security interests:

(a) TRIPS Objectives and Purpose

Article 7, Objectives: states that “The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the *transfer and dissemination of technology*, to the *mutual advantage of producers and users* of technological knowledge and in a manner conducive to *social and economic welfare*, and to a *balance of rights and obligations*.”²³² The use of phrases like the transfer and dissemination of technology, to the mutual advantage of users as well as producers of technology, along with social and economic welfare, in the objectives indicate that under TRIPS IPRs are not granted solely for economic or trade purposes, but are to fulfill social objectives as well. Article 7 reflects the principle of *balancing and integrating of interests*. The interests of users of technology are to be balanced alongside those of producers of technology. This highlights the social function of IP protection as a facilitator of socio-economic welfare, rather than being an end in itself.²³³ Food security interests form part of the social objectives that IPRs should help advance, as is confirmed by TRIPS

²²⁹ Maskus, Private Rights and Public Problems, *supra* note 88.

²³⁰ See Articles 2(2), 9(1) & 13 TRIPS.

²³¹ Raymundo Valdes & Maegan McCann, “Intellectual Property Provisions in Regional Trade Agreements: Revision and Update”, 23 September 2014, WTO Economic Research and Statistics Division *Staff Working Paper* ERSD-2014-14, at 5.

²³² TRIPS Article 7 [emphasis added].

²³³ Henning G. Ruse-Khan, *The Protection of Intellectual Property in International Law* (Oxford: Oxford University Press, 2016) at 457 [Ruse-Khan, The Protection of IP in International Law].

provisions for exceptions and limitations to IPRs that are necessary for public interest objectives and consistent with TRIPS provisions.²³⁴

Questions may arise as to whether the integration of differing public and private interests may lead to lack of certainty in interpretation of and interfere with legitimate expectations under TRIPS. However, scholars have pointed out that because deliberation of the objectives and purpose of an agreement forms part of customary international law on interpretation as stated in Article 31 of the Vienna Convention on the Law of treaties (VCLT),²³⁵ which is applicable to TRIPS, consideration of its objectives is not an option, but a necessary part of the interpretive procedure.²³⁶

Thus, consideration of public interest objectives will aid, rather than hinder, the effective interpretation of IP provisions. Integrating all the objectives of a treaty will necessitate flexible interpretation for holistic consideration of all relevant interests. While the balancing of interests should not lead to re-writing of TRIPS provisions, it has been proposed that: *“because articles of a treaty are intended to establish rights and obligations, Articles 7 and 8 should carry greater weight in the process of implementation and interpretation.”*²³⁷

Article 8, Principles: this provision contains a general principle by which public interests may be incorporated into IP regulation. Under Article 8(1) TRIPS, WTO members have the option of adopting *“measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development,* provided that such measures are *consistent* with the provisions of this Agreement.”²³⁸ As food is

²³⁴ Sell, *Private Power, Public Law*, *supra* note 28, at 13-14, 17-21.

²³⁵ UN, *Vienna Convention on the Law of Treaties*, No.18232, Vienna 23 May 1969, (entered into force 27 January, 1980) [VCLT].

²³⁶ See Carlos Correa, ed, *Research Handbook on the Interpretation and Enforcement of Intellectual Property Under WTO Rules* (Cheltenham, UK: Edward Elgar, 2010).

²³⁷ UNCTAD-ICTSD, *Resource Book on TRIPS and Development*, *supra* note 163, at 124.

²³⁸ TRIPS Article 8.1 [emphasis added].

vital to public health and nutrition,²³⁹ limitations to IPRs, as well as specialist policies to advance food security, are permitted under this provision.

Such measures must be necessary. WTO jurisprudence²⁴⁰ indicates that a necessary measure is not one that is indispensable, but rather that which is effective in attaining a specific objective, while being the least disruptive of IPRs.²⁴¹ Proving necessity requires in each case the weighing and *balancing of a series of factors*, including the contribution (suitability) of the measure to achieving the objective; the social advantage of the objective being sought; the potential restrictions the measure may pose to private commercial interests and trade; and the availability of other alternative means.²⁴² Measures to be adopted must also be consistent with TRIPS. Consistency does not, however, make Article 8 a redundant provision without effect. For what is required is consistency with the provisions of TRIPS as a whole, including TRIPS preamble, objectives and principles. This gives developing countries a basis to justify measures taken so as to balance IPRs with other relevant rights.²⁴³

The inclusion of Articles 7 & 8 in Part I of TRIPS (General Provisions and Basic Principles) indicates that they are structural provisions that affect all other areas of the Agreement.²⁴⁴ These provisions “overarch the object and purpose of individual standards of protection in the other parts

²³⁹ FAO, *The State of Food Insecurity in the World 2001*, *supra* note 4, at 49; UNHCR, *Global Strategy for Public Health 2014-2018* (Geneva, Switzerland: UNHCR, 2014) at 50-52.

²⁴⁰ GATT jurisprudence has been used to interpret broad principles in TRIPS. For example, the Panel in EC-Geographical Indications drew on GATT jurisprudence to decide if there had been a violation of TRIPS MFN and NT principles. See WTO Panel Report, *European Communities – Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs* (EC-Geographical Indications), WT/DS174/R, 15 March 2005. This also ties in with the need for consistency in interpreting general international law.

²⁴¹ See *Korea-Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, Appellate Body Report WT/DS161/AB/R (11 December 2000), pars. 160, 161 and 164 [*Korea-Beef*]; Brownell’s License, (1892) Vol.XI., *Pennsylvania County Courts Reports*, at 404.

²⁴² Rodrigues, TRIPS General Exception Clauses, *supra* note 188, at 49.

²⁴³ Peter K. Yu, “The Objectives and Principles of the TRIPS Agreement” (2009) 46:4 *Houston Law Review*, 979

²⁴⁴ Graeme B Dinwoodie & Rochelle C Dreyfuss, *A Neofederalist Vision of TRIPS: The Resilience of the International Intellectual Property Regime* (Oxford, UK: Oxford University Press, 2012) at 109-111.

of the TRIPS Agreement.”²⁴⁵ Consequently, Articles 7 and 8 are to be systematically applied in the implementation and interpretation of the Agreement.²⁴⁶ The structural, overarching, and systematic application of these provisions draws legal authority from Article 31.1 of the VCLT which states that a “treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose.”

(b) Exceptions to Patent Rights: TRIPS Article 30 allows member states to “provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties.” This provision can be seen as allowing for general exceptions to IPRs. However, this flexibility is rarely used by developing countries.²⁴⁷

Article 27.2 TRIPS provides for the possibility of refusing patents for inventions the commercial exploitation of which is "necessary to protect public order or morality, including to protect *human, animal or plant life or health* or to avoid serious prejudice to the *environment*."²⁴⁸ This public health exception indicates that IP protection, food security, nutrition, clean environments and public health have a symbiotic relationship. Because access to adequate nutritious food plays an essential role in determining the ability of humans to live a long healthy life, food security can be seen to underlie disease prevention and is critical to public health.²⁴⁹

²⁴⁵ Alison Slade, “The ‘Objectives’ and ‘Principles’ of the WTO TRIPS Agreement: A Detailed Anatomy” (2016) 53:3 *Osgoode Hall Law Journal*, 948 at 950.

²⁴⁶ *Ibid*, at 951.

²⁴⁷ Carlos Correa, TRIPS Flexibility for Patents and Food Security, *supra* note 47, at 1.

²⁴⁸ [Emphasis added].

²⁴⁹ Chidi Oguamanam, “Towards a Constructive Engagement: Agricultural Biotechnology as a Public Health Incentive in Less-Developed Countries” (2012) 7 *Journal of Food and Law Policy*, 258, at 271 [Oguamanam, “Towards a Constructive Engagement”].

The UN Committee on Economic, Social and Cultural Rights (CESCR) affirms that the right to adequate food is indivisibly linked to the inherent dignity of the human person and is indispensable for the fulfilment of other human rights enshrined in the International Bill of Human Rights.²⁵⁰ It is also inseparable from social justice, requiring the adoption of appropriate economic, environmental and social policies, at both the national and international levels, oriented to the eradication of poverty and the fulfilment of all human rights for all.²⁵¹ TRIPS provisions for IP protection should not compromise or interfere with the public health exception. The UN General Assembly confirmed this when it recognized the need to preserve TRIPS flexibilities to facilitate measures for improving access to health care. Also, United Nations Member States affirmed the provision when they agreed that IP rights provisions in trade agreements should not undermine these flexibilities.²⁵²

While the TRIPS Agreement lays the foundation for higher standards of IPRs protection internationally, it leaves its signatories with important flexibilities in designing regional and national IPRs regimes. It is important for West African countries to consider alternative ways of implementing provisions in the TRIPS Agreement cast in general or vague terms, in order to adopt policies and regulations that are most suited to domestic needs.

For example, the criteria used for determining the novelty, non-obviousness, and usefulness of patentable inventions are not detailed in TRIPS. As such, there is room for defining the terms at the regional level in relation to subsistence agriculture, so as to accommodate local plant varieties and traditional knowledge as forms of innovation that can be protected. Also, WTO member states may, under certain conditions for a limited period, overrule the exclusive rights of

²⁵⁰ CESCR, *General Comment 12*, E/C.12/1999/5, 12 May 1999, par. 4

²⁵¹ *Ibid.*

²⁵² Resolution UN A/RES/65/277. *Political Declaration on HIV and AIDS: intensifying our efforts to eliminate HIV and AIDS*. New York: United Nations General Assembly; 10 June 2011

patents by granting compulsory licenses (government authorizations to use a patent without the patent holder's consent), as long as suitable compensation is paid to rights holders. Food security concerns could justify the grant of compulsory licenses for plants, seeds and genetic resources by West African states.

Despite the provisions for exceptions in the TRIPS Agreement, concerns have continued to be raised that, in their present form, TRIPS exceptions are not of much practical utility to African countries in advancing their development objectives, due to technicalities and threats of disputes.²⁵³ The WTO's response has been to carry out deliberations on how to make TRIPS, along with other WTO treaties, more supportive of the development objectives of developing countries. A major outcome of these deliberations was the adoption, by the WTO Ministerial Conference of the 2001 Doha Declaration on the TRIPS Agreement and Public Health (Doha Declaration).

2.2.3 The WTO Doha Declaration

On 14 November 2001, the WTO Ministerial Conference in Doha adopted the Ministerial Declaration on the TRIPS Agreement and Public Health (Doha Declaration).²⁵⁴ The document reflects the desire to bring in the development dimension more strongly in IP regulation. In paragraph 4 of the Doha Declaration, parties state that: "the TRIPS Agreement does not and should not prevent members from taking measures to protect public health. Accordingly, while reiterating our commitment to the TRIPS Agreement, we affirm that the Agreement can and should be interpreted and implemented in a manner supportive of WTO members' right to protect public health and, in particular, to promote access to medicines for all."

²⁵³ See Dreyfuss & Frankel, *supra* note 179, at 565.

²⁵⁴ *Declaration on the TRIPS Agreement and Public Health*, WT/MIN(01)/DEC/2, 20 November 2001 [Doha Declaration].

In harnessing TRIPS to uphold public health, the Declaration reaffirms “the right of WTO members *to use, to the full*, the provisions in the TRIPS Agreement, which provide flexibility for this purpose.”²⁵⁵ Among the flexibilities acknowledged in para.5 are the requirement for TRIPS provisions to be interpreted in light of its objectives and principles (Articles 7-8 TRIPS); and the right of member states to grant compulsory licenses, determine what constitutes a national emergency, and to determine the conditions for exhaustion. Paragraphs 6-7 of the Doha Declaration asks the TRIPS Council to find solutions to help countries with insufficient capability to manufacture pharmaceuticals, and extends the time for Least Developed Countries (LDCs) to implement patent protection pursuant to Article 66 TRIPS.

The provisions of the Doha Declaration confirm the instrumental nature of IP regulation; affirms the right of WTO member countries to take advantage of the flexibility inherent in the TRIPS Agreement (in the form of flexibilities, exceptions and limitations to IPRs); and emphasizes that maintaining some domestic flexibility plays a fundamental role in harnessing IP to advance food security as a component of the public health objective. This is epitomized in para.44 of the Ministerial Declaration where member states reaffirm that “provisions for special and differential treatment are an integral part of the WTO Agreements”; and para. 38 which avers that “technical cooperation and capacity building are core elements of the development dimension of the multilateral trading system.”²⁵⁶

A “declaration” has no specific legal status in the framework of WTO law.¹²⁷ It is not strictly an authoritative interpretation in terms of Article IX.2 of the Marrakesh Agreement establishing the WTO. However, given the content and mode of approval of the Doha Declaration, it can be

²⁵⁵ Doha Declaration, Para. 4 [emphasis added].

²⁵⁶ *The Doha Ministerial Declaration*, WT/MIN(01)/DEC/1 20 November 2001 (01-5859) Ministerial Conference Fourth Session Doha, 9–14 November 2001 Ministerial Declaration adopted on 14 November 2001.

argued that it has the same *effects* as an authoritative interpretation. In particular, in providing an agreed understanding on certain aspects of the TRIPS Agreement in paragraph 5, Members have created a binding precedent for future panels and Appellate Body reports. According to the European Commission, “in the case of disputes (e.g. in the context of WTO dispute settlement procedures) Members can avail themselves of the comfort provided by this Declaration. Panelists are likely to take account of the provisions of the TRIPS Agreement themselves as well as of this complementary Declaration, which, although it was not meant to affect Members’ rights and obligations, expresses the Members’ views and intentions. Hence, the Declaration is part of the context of the TRIPS Agreement, which, according to the rules of treaty interpretation, has to be considered when interpreting the Agreement.”²⁵⁷

Though the Declaration is not legally binding, as a subsequent WTO agreement under Article 31.3(a) VCLT, it is relevant for the interpretation of current IP regulations and policies and for the formation of future IP treaties. It is necessary to emphasize that the Doha Declaration is not self-executing and countries should adopt the legal amendments necessary to implement it. Subsequently, the provisions of Doha will have more weight if enacted as provisions in regional or national IP regulations, or specifically referenced in an agreement.

The unitary market system established under the WTO gave rise to increased competition between participating countries which, in many cases led to the marginalization of smaller economies, particularly ones belonging to countries in the developing world. Developing countries felt pushed to the periphery in favor of larger economic powers of the developed world and multinational corporations.²⁵⁸ In Africa, IPRs became viewed as strengthening the rights of

²⁵⁷ European Commission, *WTO Ministerial Declaration on the TRIPS Agreement and Public Health*. Brussels, European Commission, 19 November 2001, at 2.

²⁵⁸ William E. Keating, “The Doha Round and Globalization: A Failure of World Economic Development?” (2015) *City University of New York (CUNY) Academic Works*, at 3-4, 27.

breeders and seed manufacturers at the expense of traditional farming practices and biodiversity in seeds, which play an important role in advancing food security in the continent.²⁵⁹ The prominent aim of the Doha round of WTO negotiations was to make multilateral trade rules fairer for developing countries.²⁶⁰ Though formal negotiations of the Doha agenda broke down in 2008, the Declarations are seen to represent a major paradigm shift which re-aligned IP regulations objectives to include the development concerns of poorer countries. The Declaration maintains a prominent place in discourse relating to IP protection, trade and development in poorer and less technologically advanced countries.²⁶¹

Contemporary cases exist where the public health exception to IPRs has been applied for the formulation of international regulation. For example, in 2008 the World Health Organization (WHO) during the sixty-first World Health Assembly adopted Resolution 61.21, which endorsed the Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property.²⁶² This Global Strategy aims, among other things, to improve the delivery of and access to health products and medical devices by effectively overcoming barriers to access. Following the Doha Declaration, several compulsory licences were issued for generic manufacture of patented pharmaceuticals.²⁶³ Some countries, most notably Thailand, developed an express strategy of using

²⁵⁹ Graham Dutfield, “Sharing the Benefits of Biodiversity: Access Regimes and Intellectual Property Rights” (1999) *Science, Technology and Development Discussion Paper 6*; Graham Dutfield, “Sharing the Benefits of Biodiversity” (2002) 5:6 *Journal of World Intellectual Property* 899.

²⁶⁰ Doha Ministerial Declaration, para. 35.

²⁶¹ Sungjoon Cho, “The Demise of Development in the Doha Round Negotiations” (2010) 45 *Texas International Law Journal*, 573, at 590-591; Carlos Correa, “Implications of the Doha Declaration on the TRIPS Agreement and Public Health” (2002) *WHO paper*, WHO/EDM/PAR/2002.3.

²⁶² World Health Organization (WHO), *Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property* (Geneva: WHO, 2011).

²⁶³ Reichman, *Compulsory Licensing* (2009), *supra* note 184; Reed Beall & Randall Kuhn, “Trends in compulsory licensing of pharmaceuticals since the Doha Declaration: a database analysis” (2012) 9:1 *PLoS Med* 1.

compulsory licensing to reduce health-care costs.²⁶⁴ In all these cases the focus has been on advancing the right to health by ensuring access to medicines.

Yet, it is important to recognize that maintaining public health involves both therapeutic and preventive aspects.²⁶⁵ Ensuring sustainable access to adequate affordable nutritious food plays an important role in preventing malnutrition and disease, and contributes to preserving public health. Such preventive strategies are often more socially and economically effective than remedial strategies, because they reduce the need for and general cost of medicinal and pharmaceutical intervention in the long run.²⁶⁶ As such, IP exceptions relating to public health should integrate provisions for adequate food and nutrition, as well as access to medicines.²⁶⁷ Strict textual interpretation of Article 27.1 will limit its application for food security purposes to instances where the diffusion of a certain plant technologies, such as the sterilization of seeds, may have negative effects on health or the environment. WTO jurisprudence indicates that proving the risks to public health of a patented product may be difficult.²⁶⁸

However, justifications for allowing IP flexibilities for food security are not solely based on its connection with public health. TRIPS Article 27.3(b) contains a specific exception that is linked to biological processes relevant to agricultural production. The provision allows the exclusion from patentability of "essentially biological processes" for the production of plants. In the absence of any definition in TRIPS itself, the exclusion for plants can be interpreted in broad terms, inclusive of plants as well as plant varieties and species. In addition, countries that opt to implement this

²⁶⁴ Thailand, *Facts and evidences on the 10 burning issues related to the government use of patents on three patented essential drugs in Thailand*. (Bangkok: Ministry of Public Health and National Health Security Office, 2007).

²⁶⁵ Oguamanam, *Towards a Constructive Engagement*, *supra* note 250, at 259.

²⁶⁶ *Ibid.*

²⁶⁷ Ruse-Khan, *The Protection of IP in International Law*, *supra* note 234, at 449.

²⁶⁸ See *EC-Measures Affecting Meat and Meat Products* WT/DS26/R/USA (18 August, 1997); *Japanese Agricultural Products Case* WT/DS76/R of 27.10.98 and WT/DS76/AB/R OF 22.2.99.

exception may exclude plants, whether obtained through conventional breeding processes or through the use of genetic engineering.²⁶⁹ WTO member countries are also given the option of protecting plant varieties by a sui generis system. Because conventional agriculture is primarily based on plants and biological processes, rather than chemical practices as is the case in the pharmaceutical industry, this provision gives further room for expanding flexibilities for food security, especially in countries that rely on traditional agricultural practices.

The provisions of the TRIPS agreement may conflict with those of other multilateral regulations. For example, some African countries have voiced concerns that the provisions of Article 27(1) and 27(3)(b) of the TRIPS Agreement, requiring the patenting of genetic material and the protection of plant varieties, allows for the requisition of such genetic resources by private parties in a way that is incompatible with the sovereign rights of countries over their genetic resources and the requirements for prior informed consent and benefit sharing as provided for in Articles 15 and 8(j) of the CBD.²⁷⁰ Similarly, the private property rights granted to breeders under the UPOV have been seen as restricting the traditional farmers' rights to save, re-use, and exchange seeds either individually or collectively, guaranteed in Article 9 of the ITPGRFA and the African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (African Model Law).²⁷¹

Hence conflict resolution norms provided in TRIPS and under general international law, are relevant in identifying the scope of public interests and human rights such as food security in IP regulation. For example, applying Article 41 of the VCLT examines the question of whether and

²⁶⁹ Correa, "TRIPS Flexibility for Patents and Food Security", *supra* note 47.

²⁷⁰ African Group, IP/C/W/404, IP/C/W/206, IP/C/W/163, IP/C/M/40, paras. 76-79; Kenya, IP/C/M/47 para. 68, IP/C/M/36/Add.1, para. 233, IP/C/M/28, para. 144.

²⁷¹ OAU, *African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources*, OAU Model Law, Algeria, 2000 [African Model Law]; Strba, *Legal and Institutional Considerations for PVP*, *supra* note 221, at 198-200.

the conditions under which parties to a multilateral treaty may modify the treaty (such as TRIPS) between themselves (*inter se*). As long as a FTA contains further IP protection between two WTO member states, it can be considered under Article 41. Article 41 is applicable to relations between TRIPS and IP provisions in most FTAs. While not part of the WTO law, as part of customary international law, Article 41 will apply in the absence of a specific provision in a treaty stating its relationship with other treaties.²⁷² The provision has also been applied in WTO jurisprudence.²⁷³

The applicability of Article 41 VCLT has been questioned in light of the decision of the WTO Appellate Body (AB) in *Peru-Agricultural Products*. In the dispute Peru argued that because Article 41 of the VCLT permits *inter-se* amendment to a treaty, a prohibition under Article 4.2 of the Agreement on Agriculture should be superseded by provisions of a later FTA Peru signed with the complainant, Guatemala.²⁷⁴ The Appellate Body rejected this contention. It held that Article XXIV of the GATT, which provides a specific rule (*lex specialis*) for FTAs to amend the GATT renders the general rule under Article 41 VCLT inapplicable.²⁷⁵ As the decision was based on application of the *lex specialis* rule, it confirms rather than rules out the application of general international law principles on conflict resolution. In the context of TRIPS and TRIPS-plus FTA, it must be noted that TRIPS does not contain a specific provision on conflict like Article XXIV GATT or Article V GATS. Article 1.1 TRIPS does not apply to FTAs that provide more protection than the minimum in TRIPS. This leaves room for applying Article 41 VCLT for modification of relations between TRIPS and later TRIPS plus FTAs to the extent that they do not affect i) the

²⁷² Joost Pauwelyn, *Conflict of Norms in Public International Law* (Cambridge: Cambridge University Press, 2003), at 305 & 315.

²⁷³ See Panel Report in *Turkey-Textiles*; and *Turkey-Restrictions on Imports of Textiles and Clothing Products*, Panel Report, 31 May 1999, WT/DS34/R, para 9.181.

²⁷⁴ Appellate Body Report, *Peru-Additional Duty on Imports of Certain Agricultural Products- Complaint by Guatemala* (2015) WT/DS457/AB/R, para 5.97.

²⁷⁵ *Ibidem*, para 5.111-5.112.

rights and obligations of other parties to the multilateral treaty (TRIPS); and ii) the object and purpose of the treaty as a whole.

2.2.4 The WIPO Development Agenda

The WIPO Development Agenda provides additional insights into the relationships that might be drawn between IPRs and sustainable food security. In 2007, the World Intellectual Property Organization's (WIPO) General Assembly adopted 45 recommendations relating to IP and development.²⁷⁶ Areas covered include technical assistance and capacity building; norm-setting, flexibilities, and public policy; technology transfer and access to knowledge; as well as impact assessment. While the recommendations do not create binding legal obligations, they give opportunities for factoring in development issues in IP regulation. "The agenda has definite meaning, but this meaning can be shaped and formed to suit different *stakeholders'* interests in different contexts."²⁷⁷ This provides developing countries greater flexibility in implementing IP regulation.

The Development Agenda makes development a primary consideration in guiding technical assistance and financial allocation in WIPO, and promotes, a "development-oriented intellectual property culture."²⁷⁸ The agenda recommends that for IP regulations to advance development, special provisions must be made to support small and medium-sized enterprises (SMEs), research institutions, and anti-competitive practices in developing countries and Least Developed Countries (LDCs).²⁷⁹

²⁷⁶ WIPO, *The WIPO Development Agenda*, October 2007, WO/GA/34/16 [WIPO Development Agenda].

²⁷⁷ Jeremy de Beer, ed, *Implementing WIPO's Development Agenda*, *supra* note 89, at 10.

²⁷⁸ WIPO Development Agenda, para. 3.

²⁷⁹ WIPO Development Agenda, paras 4 & 7.

The agenda highlights the importance of allowing for flexibilities and special and differential treatment for IP regulation to support development. For example, under par. 14, WIPO shall make available advice to developing countries and LDCs, that will aid “the understanding and use of flexibilities contained in the TRIPS Agreement”.²⁸⁰ Further, in par. 17 the agenda states that: “In its activities, including norm-setting, WIPO should take into account the flexibilities in international intellectual property agreements, especially those which are of interest to developing countries and LDCs.” The agenda also envisages a greater role for regional organizations in facilitating the development purpose of IP regulations, as it requires IP regulations to promote fair balance between intellectual property protection and the public interest, through sub-regional and regional IP organizations.²⁸¹

The Development Agenda represents a shift in thought that acknowledges the need to integrate IP and development norms and provides a foundation for African countries to adopt reforms to IP laws and policies so as to achieve regional development objectives, including food security.²⁸²

2.2.5 The International Convention of the Union for the Protection of New Varieties of Plants (UPOV) Agreement

Rights over plant varieties, entitled as plant breeders’ rights (PBRs), are found in the International Convention for the Protection of New Varieties of Plants of the Union for the Protection of New Varieties of Plants (UPOV).²⁸³ The agreement is most relevant as being the only international IP

²⁸⁰ WIPO Development Agenda para. 14.

²⁸¹ WIPO Development Agenda para. 10.

²⁸² Jeremy de Beer & Sara Bannerman, “Foresight into the Future of WIPO’s Development Agenda” (2010) 1:2 *The WIPO Journal*, 211.

²⁸³ *International Convention for the Protection of New Varieties of Plants*, 2 December, 1961, as revised at Geneva on 19 March, 1991, 815 UNTS 89 (entered into force 24 April, 1998) [UPOV].

agreement whose subject is solely plant varieties. Article 15.1 of the UPOV states that PBRs shall not extend to acts done privately and for non-commercial purposes; acts done for experimental purposes and; acts done for the purpose of breeding other varieties. Such exceptions may give countries leeway to domestically research and breed plant varieties to meet national food security needs, even without the permission of the breeder.²⁸⁴

Also, under Article 15.2, parties “may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings”. Though the exact meaning of terms such as “reasonable limits” and “legitimate interests” may prove contentious, this provision presents the possibility of restricting PBRs to allow farmers to save the seeds of protected varieties after harvest for later replanting. Because they legally preserve the autonomy of farmers to utilize seeds without incurring additional payments to breeders, such limitations to PBRs are helpful in enhancing food security in West African countries where agriculture is dominated by subsistent farmers who generally cannot sustain the cost of annually purchasing seeds.²⁸⁵

Practically implementing farmers rights under Article 15.2 of the UPOV might prove difficult as this exception is optional, is to be applied “within reasonable limits” and is made subject to the preservation of the legitimate interests of the breeder. Also, the UPOV operates a strict revision system, where a country that wants to become a member state must get its national implementation act approved by the UPOV before becoming accepted as a member. In contrast,

²⁸⁴ See the decision relating to the bolar exemption in *Canada-Patent Protection of Pharmaceutical Products* WT/DS114/R, 17 March 2000.

²⁸⁵ Carlos Correa, *TRIPS-Related Patent Flexibilities and Food Security*, *supra* note 67, at 3; FIAN International, “Business Profits or Diverse Food Systems?”, *supra* note 64, at 21-25 & 28.

Article 9 of the ITPGRFA, an international treaty whose subject is the conservation and sustainable use of plant genetic resources for food and agriculture, leaves it largely to the discretion of states to determine how Farmers' Rights are to be implemented in their national law. Thus, the UPOV system narrows the possibilities of states to adapt PVP laws to individual countries' needs. Moreover, the Explanatory Notes provided by UPOV further limit flexibility in implementing national PVP laws, as they put forward a particular interpretation of issues that may be important in practice.²⁸⁶

However, following from an instrumentalist approach to IP regulation, this does not preclude the adoption of alternative regulation to support food security objectives. As stated in the preamble, the purpose of the UPOV Convention is to “provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, *for the benefit of society*.”²⁸⁷ In considering interrelations between the UPOV, the CBD and the ITPGRFA, The Council of the UPOV has emphasized that the three treaties should be interpreted in a mutually supportive manner.²⁸⁸ Consequently, nothing prevents a country from developing exceptions and limitations to IPRs in the UPOV, through regional and national regulations, so as to support domestic food security. Several Non-Governmental Organizations (NGOs) focused on rural agriculture, have advised West African countries that have not yet joined the UPOV to consider opting for alternative sui generis systems of PVP that allows for more flexibility in

²⁸⁶ German Federal Ministry for Economic Cooperation and Development, *The UPOV Convention, Farmers' Rights and Human Rights: An Integrated Assessment of Potentially Conflicting Legal Frameworks* (Bonn, Germany: GIZ, 2015), at 4-5 [UPOV Study].

²⁸⁷ UPOV, Preamble [emphasis added].

²⁸⁸ UPOV, “Access to Genetic Resources and Benefit Sharing”, *Reply of the UPOV to the Notification of June 6, 2003, from the Executive Secretary of the Convention on Biological Diversity (CBD)*, adopted by the Council of UPOV at its 37th ordinary session, 23 October 2003, at par.3; and UPOV, “Interrelations with the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)”, 94th Session, 25 October 2017, CC/94/10, at par.5.

meeting the obligations of different treaties, for balancing the interests of diverse actors, and for protecting and promoting farmers' rights.²⁸⁹

2.3 Provisions for Food Security in Non-IP Based International Law and Agreements

2.3.1 The CBD and the *Nagoya Protocol*

The CBD is an international agreement aimed at advancing conservation of biological diversity and sustainability, by ensuring access to genetic resources and fair and equitable sharing of the benefits arising from their utilization. The CBD is of great importance to food security as it provides in Articles 8(j) and 15 for protection of traditional knowledge, prior informed consent and access and benefit sharing, rights which while not formally recognized under IP protection, play an important role in advancing food security.²⁹⁰

Article 16(1) of the CBD recognizes that “both access to and transfer of technology among Contracting Parties are essential elements for the attainment of the objectives” of the convention. Subsequently, the article requires states to “provide and/or facilitate access for and transfer to other Contracting Parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant damage to the environment.” As Article 16.1 of the CBD defines technology to include biotechnology, the Convention attempts to enhance the flow of biotechnology between countries. Because of the capacity of biotechnology to improve agricultural production, studies generally agree that the CBD

²⁸⁹ See GRAIN, “Ten Reasons Not to Join UPOV”, *GAIN* Issue no.2, 15 May 1998; Rural Advancement Foundation International (RAFI), “TRIPS Traps or Dice? Gambling with World Food Security”, *Echoes*, online: < <http://www.rrojasdatabank.info/trade1.htm>>; RAFI, “TRIPS Traps for Small Farmers: The Impact of IPRs on Sustainable Food Security and Farm Families Remains to be Felt”, *RAFI Genotype*, May 1999.

²⁹⁰ Terry Sunderland, “Food Security: Why is Biodiversity Important?” (2011) 13:3 *International Forestry Review* 265; Jillian Lenne & David Wood, “Agrobiodiversity Revisited”, in Jillian Lenne & David Wood, eds, *Agrobiodiversity Management for Food Security: A Critical Review* (Wallingford: CAB Int., 2011) at 1-12.

provisions have the potential to enhance food security in African countries.²⁹¹ However, case studies illustrate the unsustainability of policies adopted by African countries to import and distribute improved varieties.²⁹² This indicates that harnessing the potential of biotechnology for food security in the continent requires technology transfer that involves human capacity development and enables smallholder farmers in Africa to innovate locally.²⁹³ Accomplishing such technology transfer in West Africa will require procedural changes to IP regulations to effectively include smallholder farmers.

The need for inclusion is highlighted in statements made by parties to the CBD in which they stress that technology transfer will not be effective as a one-way activity.²⁹⁴ Rather, it needs to be entrenched in an inclusive decision-making process as well as in integrated, long-term scientific and technological cooperation, including the joint development of technologies.²⁹⁵ The obligations for technology transfer are provided for under article 16 of the CBD (access to and transfer of technology); articles 12, 17 and 18 (information sharing and cooperation); article 19 (participation and capacity building) and article 20 (funding and the transfer of technology). CBD member states shall take full account of the specific needs and special situation of least developed countries in their actions with regard to funding and transfer of technology.²⁹⁶ Each of these provisions increases space for differentiation in IP agreements made by West African states so as

²⁹¹ UNESCO, “The Role of Science, Technology and Innovation in Ensuring Food Security by 2030”, *Report of the Secretary General*, 27th February, 2017, E/CN.16/2017/3, at 5-6.

²⁹² UNCTAD, “The Role of Science, Technology and Innovation in Ensuring Food Security by 2030”, (New York: UN, 2017) UNCTAD/DTL/STICT/2017/5, at 3.

²⁹³ *Ibid.*

²⁹⁴ *Technology Transfer and Co-operation*, Conference of the Parties to the Convention on Biological Diversity, 9th meeting, Agenda Item 4.3, UN Doc UNEP/CBD/COP/DEC/IX/14 (9 October 2008) annex (‘*Strategy for the Practical Implementation of the Programme of Work on Technology Transfer and Scientific and Technological Co-operation*’) para 4.

²⁹⁵ The *Convention* treats technology transfer as the transfer of a system that includes materials, know-how, procedures and processes, rather than as the mere transfer of a product such as the sale of germplasm: *ibid.*

²⁹⁶ CBD, Article 20(5).

to build their scientific, institutional, administrative and legal capacity to adopt and adapt technology relevant for food security.²⁹⁷

The detailed provisions of the CBD provide greater flexibility for considering food security interests. Parties have obligations to: facilitate access and transfer of technologies to developing countries under “fair and most favourable terms”;²⁹⁸ provide, on mutually agreed terms, access and transfer to provider states technology (including technology protected by patents) which makes use of their resources;²⁹⁹ promote priority access, on mutually agreed terms and on a fair and equitable basis, to the results and benefits arising from biotechnologies based on provider countries’ genetic resources;³⁰⁰ facilitate access to and transfer of technology from the private sector;³⁰¹ and cooperate to make sure that intellectual property rights support the *Convention’s* objectives.³⁰²

The *Nagoya Protocol* is a protocol to the CBD aimed at advancing the third objective of the CBD relating to fair and equitable sharing of benefits from utilization of genetic resources.³⁰³ It develops the legal framework and institutions to achieve the CBD’s objectives of Access to Genetic Resources (Article 15) and Traditional Knowledge (Article 8(j)), all of which are relevant tools in achieving food security. Article 5 of the Nagoya Protocol calls for fair and equitable benefit sharing; Article 6.3 requires prior informed consent (PIC), or approval and involvement of indigenous and local communities (ILCs), before commercialization of bio-genetic resources; while Article 7 requires access and benefit sharing (ABS), relating to the development of genetic

²⁹⁷ Fran Humphries, “Technology Transfer of Aquatic Genetic Resources under the Convention on Biological Diversity and the Nagoya Protocol: Sponging Off Patent Law Defences” (2016) 39:1 *University of New South Wales (UNSW) Law Journal* 234, at 237-240.

²⁹⁸ CBD, Article 16(2).

²⁹⁹ CBD, Article 16(3).

³⁰⁰ CBD, Article 19(2).

³⁰¹ CBD, Article 16(4).

³⁰² CBD, Article 16(5).

³⁰³ *Nagoya Protocol*, Article 1.1.

resources associated with traditional knowledge, be done on mutually agreed terms (MAT) with ILCs. The Protocol covers aspects of biotechnology³⁰⁴ that are also a subject of the CBD and TRIPS Agreements. This potential for overlap is recognized by the CBD and it attempts to preclude conflicts by stating that the “Protocol shall be implemented in a manner mutually supportive with other relevant international instruments”;³⁰⁵ without hierarchy between itself and other international treaties; and disallows other international agreements to run counter to its objectives.³⁰⁶

The CBD and Nagoya Protocol must cede to existing international agreements, unless there is likely to be a “serious damage or threat to biological diversity”.³⁰⁷ Uncertainty remains, however, about the threshold for harm that would justify the Protocol’s overriding effect in such cases.³⁰⁸ There is also uncertainty about the impact on the Convention of later agreements such as TRIPS. As ECOWAS countries are signatories to all the above agreements, reference to the CBD and Nagoya objectives may provide room for more flexible interpretation of IP norms to support food security interests in West African states.

2.3.2 The International Treaty on Plants and Genetic Resources (ITPGRFA)

Adopted in 2001, the objectives of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) are “*the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food*”

³⁰⁴ Nagoya Protocol, Article 2(d).

³⁰⁵ Nagoya Protocol, Articles 4.3, 12.

³⁰⁶ CBD, Article 16.5; Nagoya Protocol Article 4.1.

³⁰⁷ CBD, Article 22.1; Nagoya Protocol, Article 4.1.

³⁰⁸ Charles Lawson, *Regulating Genetic Resources: Access and Benefit Sharing in International Law* (Edward Elgar, 2012) 174.

security.”³⁰⁹ In achieving its goals, the ITPGRFA makes the following regulations: Farmer’s rights should be promoted and protected by national governments, including any traditional knowledge relevant to plant genetic resources for food and agriculture.³¹⁰ Farmers have the right to share in the benefits from genetic resources used for agriculture³¹¹ and to be involved in decision making in the area.³¹² The farmer’s right is strengthened by Article 9(3) ITPGRFA which states that “Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed.” This differs from the provisions of the UPOV and TRIPS, as neither agreement allows farmers to exchange seed preserved from their farms. Farmers’ rights are vital for ensuring the conservation and sustainable use of plant genetic resources for food and agriculture and consequently for food security and sustainability.

A tension exists between plant breeders’ intellectual property rights, which adhere to a developed conception of property ownership, and the practices of local subsistence farmers, who often own plant varieties communally and produce food for their own subsistence. Intellectual property regimes tend to threaten traditional farmers’ ability to save and replant seeds, as well as to exchange seeds with other members of the community. Because subsistence farmers preserve and create new genetic diversity in the food supply through the process of saving, replanting, and exchanging seeds, IP regulations erode the ability of the farmers in West Africa to react to food security needs using diverse plant genetic resources by placing hindrances on these traditional farming activities.³¹³ The concept of “farmers’ rights” was developed to protect these traditional

³⁰⁹ ITPGRFA, Article 1.1.

³¹⁰ ITPGRFA Article 9.2(a).

³¹¹ ITPGRFA Article 9.2(b).

³¹² ITPGRFA Article 9.2(c).

³¹³ Dutfield, *Sharing the Benefits of Biodiversity: Access Regimes and Intellectual Property Rights* (1999), *supra* note 264; Dutfield, *Sharing the Benefits of Biodiversity* (2002), *supra* note 264.

farming practices in response to the expansion of IPR in plant varieties.³¹⁴ Protecting farmers' rights is essential to fighting poverty, hunger, and food insecurity in West Africa.³¹⁵ Article 9 of the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) explicitly recognizes these rights. A detailed reference to the concept of farmers' rights in international law can be found in Article 9.1 of ITPGRFA, which states that:

The Contracting Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centers of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.

Article 9.2 of the ITPGRFA emphasizes that:

the responsibility for realizing farmers' rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote farmers' rights, including:

- (i) protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
- (ii) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and
- (iii) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

The ITPGRFA goes further to protect traditional farming processes that allow for the free flow of genetic resources and knowledge by requiring that "Nothing in this Article shall be interpreted to

³¹⁴ Lauren Winter, "Cultivating Farmers' Rights: Reconciling Food Security, Indigenous Agriculture and TRIPS" (2010) 43 *Vand J. Transnat'l L.*, 223, at 225.

³¹⁵ Callo-Concha et al, *supra* note 58; Oxfam, "Food Security, Agriculture, and Livelihoods", 2016 *Policy Article*. Online: < <https://policy-practice.oxfamamerica.org/work/food-agriculture-livelihoods/>> [accessed 13 March, 2018].

limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.”³¹⁶ This recognition could be an argument in the discussion of customary law, but does not in itself establish any clear legal obligations or rights.³¹⁷

Article 9.2(a) of the ITPGRFA enshrines the right to protection of traditional knowledge relevant to plant genetic resources for food and agriculture, as a substantive right. This sets a clearer recognition than Article 8j of the CBD concerning traditional knowledge, as it refers specifically to traditional knowledge held by farmers and on plant genetic resources relevant to agriculture and food. However, Article 9.2 does not describe the manner in which traditional knowledge should be protected or the purpose for which it should be protected.³¹⁸

One drawback in applying farmers’ rights is that the language of TRIPS and the UPOV is far more obligatory and detailed than in most rules established in the CBD or the ITPGRFA. The words adopted in international treaties oblige the states to differing degrees and thus limit the national flexibility in adopting non-uniform frameworks. For example, the language in Article 9.2 of ITPGRFA states that Farmers’ Rights ‘should’ be adopted, ‘as appropriate’ and ‘subject to national legislation’. The language portrays farmers’ rights as something optional, which is subjective to national laws. In contrast, Article 2 of the 1991 UPOV Convention uses the word ‘shall’ to describe the protection of breeders’ rights, implying a compulsory obligation with specific reparations if overlooked. However, such etymological challenges can be overcome by specifically enacting the provisions of treaties like the ITPGRFA in the text of regional treaties.

³¹⁶ Article 9.3 ITPGRFA.

³¹⁷ UPOV Study, *supra* note 291, at 50.

³¹⁸ *Ibid.*, at 51.

The preamble of the ITPGRFA states that there is no hierarchy between the ITPGRFA and other treaties, such as CBD, UPOV or the TRIPS Agreement, in international law. If there is overlap or even conflict between two rules, other principles of legal harmonization need to be drawn upon. In such cases it is usually either ruled, that the more specific obligation prevails over the more general one (*lex specialis derogat legi generali*: “Special law repeals general laws.”);³¹⁹ or the more recent of the conflicting obligations prevails over the older one (*Lex posterior generalis non derogat priori specialis*: “A later, general law does not repeal an earlier, specialized law.”)³²⁰ In this particular case, ITPGRFA is more recent than UPOV 91, whereas UPOV 91 is probably more specific. This indicates that the ITPGRFA did not intend to alter the legal situation which was in place prior to its agreement. Which of two conflicting norms will prevail at the international level is not clear from the ITPGRFA preamble or from the UPOV Convention itself. Areas of overlap or conflict will need to be resolved through their interpretation under the VCLT and implementation in domestic legislation.³²¹

Considering the important role that balancing of interests’ plays in harnessing IP systems to advance food security, farmers’ rights protection provides a strong counter to PBRs and PVP laws that may interfere with traditional agricultural practices that remain important for food security in Africa. For example, the UPOV outlines four criteria as necessary for PVP, namely novelty, distinctness, uniformity and stability. A variety can be protected under UPOV-based PVP law as

³¹⁹ A principle according to which a rule of *lex specialis* is deemed to apply notwithstanding contrary general principles of international law. The priority given to *lex specialis* is considered justified by the fact that the *lex specialis* is intended to apply in specific circumstances regardless of the rules applicable more generally where those circumstances may be absent. See Aaron X. Fellmeth & Maurice Horwitz, *Guide to Latin in International Law* (Oxford: Oxford University Press, 2011) [Fellmeth & Horwitz, Guide to Latin].

³²⁰ A principle according to which a rule of *lex specialis* that conflicts with a later general treaty provision or rule of customary law is not usually considered to be repealed or amended. The rationale for this rule is that, in adopting general rules, the international community should not be assumed to intend to expunge preexisting nuances of the law. See Fellmeth & Horwitz, Guide to Latin, *supra* note 324.

³²¹ UPOV Study, *supra* note 291, at 49.

a ‘novel’ variety if it has not been sold or marketed as such with its defining characteristic; this means that well-known and used farmers’ varieties could be developed into protected varieties if some breeding activity has been involved.

This exposes the farmers to limitations regarding their previous rights, such as to freely save, use, exchange and sell seed of this variety. In cases where there is no system that allows for registration of existing farmer varieties, the assessment of ‘distinctness’ cannot be done in a reasonable manner, as the diversity of characteristics of farmer varieties in use will be largely unknown. Moreover, a strictly applied ‘uniformity’ criterion could become a challenge for protecting varieties targeting stress-prone environments and low-input farming systems, thus hindering rather than promoting breeding progress for these conditions. It could also prevent farmers from protecting local varieties that are less uniform.³²²

Previous legal analysis of the farmers’ rights instituted by the ITPGRFA identifies the rights as having several facets which include: a right to protection of relevant traditional knowledge, a right to equitably participate in sharing benefits, a right to participate in decision-making, and rights to save, use, exchange and sell farm-saved seeds or propagating materials.³²³

The 1991 Act of the UPOV Convention does not promote any of the identified elements of farmers’ rights. Rather, these rights become restricted once a country adopts UPOV 91-based PVP law in its national legislation. The definition of a breeder in the 1991 Act of the UPOV Convention *impedes plant breeders’ rights from being granted for varieties that originate from collective, informal breeding systems* where no ‘legal person’ can be identified as the potential holder of a

³²² UPOV Study, *supra* note 291, at 5.

³²³ UPOV Study, *supra* note 291, at 85.

PVP right. However, this type of traditional breeding used in subsistence farming, is important for many crops that ensure food and nutrition security in West African countries.³²⁴

In contrast, the ITPGRFA leaves it to the discretion of state parties to take measures that protect and promote farmers' rights 'as appropriate' under national legislation, and in harmony with other existing treaty obligations of the members. Therefore, state parties to ITPGRFA have an obligation to address the issue of farmers' rights, to take measures to protect and promote these rights, and in this context to define what should be regarded as an 'appropriate' level of protection of farmers' rights in the country. ITPGRFA further refers to policies and legal measures. Maintaining or developing policies that support the sustainable use of plant genetic resources, and reviewing existing policies are options mentioned. This could also include clarifying the legal status of customary norms within the legal system of a country.³²⁵

The more difficult legal question arises in specifying where farmers' rights end, and where the rights of another legal person (such as the IPRs holder) start to become effective? The right to the biological material is a property right inherent to the physical samples; whereas IPRs targets another dimension of property, the immaterial one. Therefore, when exploring the relationship between farmers' rights as a legal concept and others, like UPOV-based PVP systems, the point of departure is that the farmers' right is a comprehensive right which flows subsequently from the ownership to the biological resources, in this case the seed, plants, and genetic resources. Any limitations to the right of the farmers must be justified. Hence, the discussion of the legal content of the farmers' rights is relevant in all situations where the right of a farmer meets other legal

³²⁴ UPOV Study, *supra* note 291, at 57.

³²⁵ UPOV Study, *supra* note 291, at 86.

systems, including under the TRIPS patents, PBRs and PVP regulations; UPOV-based regional PVP treaties; and regional agricultural and seed laws.³²⁶

Article 10 of the ITPGRFA recognizes “the sovereign rights of States over their own plant genetic resources for food and agriculture, including that the authority to determine access to those resources rests with national governments and is subject to national legislation”.³²⁷ This sovereignty grants countries greater policy space, as independent owners of their genetic resources. Article 12.3(a) allows access to genetic resources solely for utilization and conservation for research, breeding and training for food and agriculture. It does not provide access for chemical, pharmaceutical, and/or other non-feed/ industrial purposes. Article 12.3(d) prohibits the use of IPRs or other forms of rights to limit access to the plant genetic resources for food and agriculture, or their genetic parts or components, in the form received under multilateral IP agreements like TRIPS.

2.3.3 Treaties Regulating Sustainable Development

Since its formal definition in the UN Brundtland report as *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*,³²⁸ the concept of sustainable development has played an increasingly prominent role in international agreements relevant to IP and food security. For example, sustainable development is mentioned in the preamble of WTO agreements as an overarching goal which the treaty should contribute to and is provided for in the CBD and ITPGRFA. The interests and implications relating to the concept were epitomized in the UN's Sustainable Development Goals [SDG's] (2015), to which

³²⁶ UPOV Study, *supra* note 291, at 55.

³²⁷ ITPGRFA, Article 10.1.

³²⁸ UN, “Our Common Future”, Report of the World Commission on Environment and Development, UN Doc. A/42/427-Annex, 4 August 1987, at 43.

West African countries are signatories. The SDGs reflect right to food concerns as SDG 2 calls for an end to hunger by 2030 and includes a mandate for sustainable agricultural production.³²⁹

Sustainable development requires the balanced reconciliation and integration of economic, environmental and social priorities.³³⁰ The *Johannesburg Declaration* (2002) has emphasized that sustainable development connotes “a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development—economic development, social development and environmental protection—at local, national, regional and global levels.”³³¹ Sustainable development requires countries to go beyond increasing economic growth, to recognizing the interconnectivity of actions such as equitable distribution of wealth to meet the health, educational and other social needs of society; along with limiting the damage to the environment, in sustaining durable societal development.

Sustainable development is referred to in TRIPS preamble, where parties commit to their economic and trade endeavor, “while allowing for the optimal use of the world’s resources in accordance with the objective of sustainable development”; and in TRIPS Articles 7 & 8, as an overarching objective of the agreement. Though a preamble does not set binding normative standards, a specific reference in the preamble allows sustainable development to be viewed as a rule of interpretation which must add colour, texture, and shading to the interpretation of the agreement,³³² requiring that different fields of law are integrated if the scope of interpretation

³²⁹ UN, Sustainable Development Goals, online:< <https://sustainabledevelopment.un.org/sdgs>,> (accessed 5 March 2017).

³³⁰ Marie-Claire Segger & M. Gehring, “Introduction”, in Marie-Claire Segger & M. Gehring, eds., *Sustainable Development in World Trade Law* (The Hague: Kluwer Law International, 2005), 1-24, at 5.

³³¹ *Johannesburg Declaration on Sustainable Development*, adopted at the 17th plenary meeting of the World Summit on Sustainable Development, on 4 September 2002 [Johannesburg Declaration].

³³² See *United States – Import Prohibition of Certain Shrimps and Shrimp Products* (1998) WT/DS58/R report of the Panel, 15 May 1998, and WT/DS58/AB/R report of the Appellate Body, 12 October 1998, AB Report, para. 153 [US-Shrimps].

allows for doing so.³³³ The need to consider sustainable development principles in interpreting IP and trade treaties has been confirmed in multilateral jurisprudence.³³⁴ This requires balancing the economic objectives of IP, with its social and environmental functions in interpreting IP regulation.³³⁵

The UN's Commission on Economic, Social and Cultural Rights' (CESCR) General Comment 12 on the right to adequate food also highlights the notion of sustainability, as intrinsically linked to the notion of food security, which implies the accessibility of food for both present and future generations. For food production to be sustainable agriculture must support biodiversity and access to a diversity of genetic resources.

The fact that IPRs may influence sustainable development is affirmed by the inclusion of sustainable development as an objective of IP protection in Articles 7 TRIPS and the Doha Declaration. In the words of the Appellate Body, "The WTO treaties' objective of sustainable development must add colour, texture and shading to our interpretation of the Agreements annexed to the WTO Agreement."³³⁶ This means that provisions for IP protection must also be consistent with the economic justice and human rights values embodied in the sustainable development agenda that Africa has set for itself in regional treaties³³⁷ and by signing up to the UN's

³³³ Elisabeth B. Bonanomi, *Sustainable Development in International Law Making and Trade International Food Governance and Trade in Agriculture* (Cheltenham: Edward Elgar, 2015) at 187.

³³⁴ See Appellate Body Report, *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, adopted 6 November 1998; and Panel Report *United States – Shrimp – Recourse to Article 21.5 by Malaysia*, WT/DS58/RW, adopted 15 June 2000.

³³⁵ *Gabcikovo-Nagymaros Project* (Hungary v. Slovakia), 25 September 1997, ICJ Reports 1997, 7, at 75.

³³⁶ See *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, (Appellate Body Report) adopted 6 November 1998, paras 152-153; and *United States – Shrimp – Recourse to Article 21.5 by Malaysia*, WT/DS58/RW, (Panel Report) adopted 15 June 2000.

³³⁷ Examples include the AU's, *Agenda 2063 – The Africa We Want* (Addis Ababa: AU Commission, 2015), para 13 and 72 [Agenda 2063]. See also Paras 9, 66(c) and (d), 67 stressing the need to eradicate poverty, online: <<http://www.un.org/en/africa/osaa/pdf/au/agenda2063.pdf>>; and the Africa Charter on Human and Peoples' Rights.

international sustainable development goals.³³⁸ The SDGs themselves are political goals, not legal rules. Yet, the SDGs are to be implemented in a manner that is consistent with the rights and obligations of States under international law. Thus, the SDGs can be regarded as a “relevant rules of international law applicable in the relations between the parties”, under Article 31.3 (c) of the Vienna Convention on the Law of the Treaties, making them relevant for the interpretation of TRIPS and for the application of its provisions. A review of international jurisprudence reveals that different types of documents have been described as relevant for interpretation of multilateral agreements. For example in *US – Clove Cigarettes*,³³⁹ the WTO Appellate Body admitted that Paragraph 5.2 of the Doha Ministerial Decision on Implementation Issues constitutes a "subsequent agreement between the parties" within the meaning of Article 31(3)(a) of the Vienna Convention on the Law of Treaties, which may be used to clarify the provisions of existing WTO agreements.³⁴⁰ Likewise, in the *Whaling in the Antarctic* case, the International Court of Justice referred to (non-binding) recommendations of the International Whaling Commission, clarifying that when such recommendations are “adopted by consensus or by a unanimous vote, they may be relevant for the interpretation of the Convention or its Schedule.”³⁴¹

The concept of sustainable development articulated in Article 11.1 ICESCR has been developed in various multilateral agreements, prominent ones being Agenda 21 and the SDGs. Agenda 21 is a non-binding action plan created by the UN Conference on Environment and Development in 1992 that suggests ways for states and NGOs to promote sustainable development.

³³⁸ United Nation’s Economic Commission for Africa (ECA), “The Continental Free Trade Area (CFTA) in Africa: A Human Rights Perspective”, *Joint Report* of the African Trade Policy Centre (ATPC) and the Friedrich-Ebert-Stiftung (FES), 2 November 2017, at 33.

³³⁹ *United States-Measures Affecting the Production and Sale of Clove Cigarettes* (Complaint by Indonesia) (2012), WT/DS406/AB/R (Appellate Body Report) paras. 241-275 [US-Clove Cigarettes].

³⁴⁰ *US – Clove Cigarettes*, Appellate Body Report, paras. 257-259.

³⁴¹ *Whaling in the Antarctic* (Australia v. Japan: New Zealand intervening), I.C.J. (2014), para. 46.

Agenda 2030, also known as the Sustainable Development Goals, is a set of goals decided upon at the UN Sustainable Development Summit in 2015 that develops the goals set by Agenda 21.

The SDGs reflects right to food concerns, as SDG 2 calls for an end to hunger by 2030 and includes a mandate for sustainable agricultural production. To achieve the SDGs, IP laws and policies should balance biotechnology and biodiversity interests.³⁴² “IPRs such as plant breeders’ rights, and patents applied to genetic resources, biodiversity components, and biotechnological processes may limit possibilities to freely grow certain crops and to utilize various agricultural products, thus undermining some of the basic human needs on which life depends.”³⁴³ As both human rights and IPRs are widely recognized legal regimes, states should ensure appropriate balancing between both sets of rights.

Balancing is primarily carried out by states as the main addressees of a sustainable development treaty objective. Agenda 21 stresses the role that balancing plays in sustainable development by emphasizing that trade and environment policies must be mutually supportive³⁴⁴ and that laws be contextualized. Para 8.13 of the Agenda stipulates that: “Laws and regulations suited to country-specific conditions are among the most important instruments for transforming environment and development policies into action, not only through ‘command and control’ methods, but also as a normative framework for economic planning and market instruments.”³⁴⁵

³⁴² Michael Halewood et al, “Farmers, Landraces and Property Rights: Challenges to Allocating Sui Generis Intellectual Property Rights to Communities over their Varieties” in Susette Biber-Klem & Thomas Cottier, *Rights to Plant Genetic Resources and Traditional Knowledge: Basic Issues and Perspectives* (Wallingford, Oxfordshire: CABI 2006) 173-199, at 173.

³⁴³ Rosemary J. Coombe & Joseph F. Turcotte, “Cultural, Political and Social Implications of Intellectual Property Laws in an Informational Economy”, in UNESCO-EOLSS Joint Committee, eds, *Culture, Civilization and Human Society: A Volume in the Encyclopedia of Life Support Systems (EOLSS)*, developed under the auspices of UNESCO (Oxford: EOLSS publishers, 2012) 1at 19.

³⁴⁴ Agenda 21, Par. 2.19.

³⁴⁵ Agenda 21, Par. 8.13.

The ambiguous nature of the integration principle (as stated in TRIPS Articles 7 & 8) secures policy space for states to implement TRIPS treaty provisions in light of the sustainable development objective. Since the provisions do not specify one specific result or method by which the sustainable development goal is to be achieved in IP regulation, states retain substantial discretion in giving effect to a sustainable development objective.³⁴⁶ As an overarching objective of multilateral IP regulations, SDGs also give ground for arguing against the adoption of TRIPS plus provisions in West Africa's IP treaties that hinder the region's food security interests. For implementation at the domestic level must comply with the balancing chosen by the contracting parties at the international level.

2.3.4 General Human Rights

Global human rights are espoused in the UN's Universal Declaration of Human Rights (UDHR). The human right most influential in achieving food security is the right to food, which is declared in article 25 of the UDHR and Article 11 of the ICESCR. The "right to food is inseparably linked to the dignity of human beings and is therefore essential for the enjoyment and fulfilment of such other rights as health, education, work and political participation" and an "inherent part of the rights to life, health and the right to economic, social and cultural development."³⁴⁷ All West African countries have ratified the main international treaties relevant to the right to food.

The right to food is recognized, directly and indirectly in several legal instruments to which West African states are parties, including the African Charter on Human and Peoples' Rights

³⁴⁶ Henning G. Ruse-Khan, "Sustainable Development in International Intellectual Property- New Approaches from EU Economic Partnership Agreements?", *ICTSD Issue Paper* no.29, September 2010, at viii.

³⁴⁷ *Social and Economic Rights Action Centre (SERAC) & Another v Nigeria* Comm 155/96 (2001) AHRLR 60 [ACHPR 2001]. See also African Commission, "2011 Guidelines and Principles on Economic, Social and Cultural Rights in the African Charter on Human and Peoples' Rights", 2011, online: www.achpr.org/instruments/economic-social-cultural; *African Charter on Human and Peoples' Rights*, AU, OAU Doc. CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), adopted 27 June 1981, entered into force 21 October 1986.

(1981), Article 24(2) of the Convention on the Rights of the Child³⁴⁸ and the Protocol to the African Charter on the Rights of Women in Africa (2003). Apart from Niger, the right to food is not widely included in the constitutions of West African countries as a fundamental right. However, the constitutions of many West African states mention the right to food as a guiding principle along with other rights.³⁴⁹ Thus, it may be argued that people in those states have an implicit constitutional right to food security as part of other rights.³⁵⁰

The most detailed exposition of the right to food is found in the UN's Commission on Economic, Social and Cultural Rights' (CESCR) General Comment on the topic. This provides that "the right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement."³⁵¹

In addition to the general human rights principles (non-discrimination, non-retrogression, to take steps, to monitor and to provide access to remedies) that apply, the General Comment specifies that the right to adequate food implies ensuring the availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture. Fulfilling the right to food also requires the accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights. The concept of adequacy is particularly significant in relation to the right to food since it serves to underline a number of factors which must be evaluated in determining whether particular foods or diets that are accessible can be considered the most appropriate under given

³⁴⁸ UN-OHCHR, *Convention on the Rights of the Child*, General Assembly Resolution 44/25, 20 November 1989.

³⁴⁹ FAO, *Assessment on the Right to Food in the ECOWAS Region* (Rome: FAO, 2014), at 41-42, 55.

³⁵⁰ FAO, "The Right to Food around the World: Search by level of recognition", online: <www.fao.org/right-to-food-around-the-globe/level-of-recognition/en/> (accessed 17 May 2017).

³⁵¹ UN CESCR. 1999. General Comment 12, The Right to Adequate Food, E/C.12/1999/5.

circumstances. The precise meaning of adequacy is, to a large extent, determined by prevailing social, economic, cultural, climatic, ecological and other conditions.³⁵²

The General Comment also highlights the notion of sustainability, as intrinsically linked to the notion of adequate food or food security. It is worth noting that the General Comment specifies that availability refers to the possibilities either for feeding oneself directly from productive land or other natural resources; or for well-functioning distribution, processing and market systems that can move food from the site of production to where it is needed in accordance with demand.³⁵³

Review of human rights provisions such as Article 25 of the UDHR, and Article 11 of the ICESR, indicate that areas of IP protection, such as trade and innovation, are also the subject of human rights laws. For example, the international protection of IP coincides with societal concerns like food security (plant variety rights vs. farmer's informal seed exchange systems). The overlap of regulations makes consideration of human rights interests especially important when interpreting IP norms.

In Africa, 48 per cent of the population rely on agriculture for food production and economic empowerment. Over the last 30 years, the agricultural sector has continued to absorb a large proportion of the working population, a feature unique to African agriculture in comparison to the rest of the world. Most of Africa's hungry live in rural areas. Therefore, preserving and boosting agricultural livelihoods, particularly for small-scale farmers, pastoralists, and fishermen, alongside rural development is essential to assuring the right to food. Promoting and supporting agriculture over the long-term is also essential for achieving food security. Small-scale farmers contribute to this increase in food production, which in turn can improve livelihoods. Sustainable agricultural

³⁵² UN Economic Commission for Africa (2017-07) Report, "The Continental Free Trade Agreement in Africa- A Human Rights Perspective" July 2017, Addis Ababa, at 55 [UNECA-CFTA Report]. Online: <http://www.fes-globalization.org/geneva/documents/2017/2017_07_CFTA_HRIA_Publication.pdf> (accessed 18 March 2018).

³⁵³ *Ibid*, at 56.

livelihoods are and will be central to guaranteeing the right to food as well as other human rights in Africa.³⁵⁴

The need for balancing of interests is acknowledged in General Comment No. 12 of the Committee on Economic, Social and Cultural Rights (CESCR),³⁵⁵ which analyzes the right to food clause in Article 11 of the ICESCR. In paragraph 4 the Committee affirms that the right to food is “indispensable for the fulfilment of other human rights...(and) also inseparable from social justice, requiring the adoption of appropriate economic, environmental and social policies”. This places an obligation on states to adequately cater for the social, environmental, as well as economic conditions relating to the right to food, when entering into IP agreements with other states or with international organizations.³⁵⁶

The principle of the interrelatedness and mutual supportiveness of other rights³⁵⁷ requires IP agreements to be interpreted to support human rights, including the right to food (Article 25 UDHR), and sustainable development. Successful integration of these rights may not require greater harmonization, for the value of harmonized conditions varies between states, requiring differential lines to be drawn.

Because engagement between the Human Rights (HRs) and IP regimes is inevitable, the logical question that arises is what normative framework ought to guide that engagement? The United Nations affirms the primacy of fundamental human rights obligations over private economic rights protected in IP related agreements like TRIPS.³⁵⁸ Under the latter approach, HRs can be seen as providing a ‘ceiling’ to IPRs, specifying interests which IPRs should not interfere

³⁵⁴ UNECA-CFTA Report, *supra* note 357, at 82.

³⁵⁵ UN CESCR, *General Comment 12, The Right to Adequate Food*, E/C.12/1999/5 (1999) [General Comment 12].

³⁵⁶ General Comment 12, par 19.

³⁵⁷ See VCLT Article 31(3)(c); and the 1993 Vienna Declaration and Programme of Action, which states that “all human rights are universal, indivisible, and interdependent and interrelated.”

³⁵⁸ UN Sub-Commission on the Promotion and Protection of Human Rights, *Intellectual Property Rights and Human Rights*, Res. 2000/7, UNESCOR, 2000, UN Doc. E/CN.4/Sub.2/RES/S007/7, preamble, para. 3.

with. However, if taken to an extreme, this approach could greatly reduce the incentives for producing technology important for public interests, such as improving strains of cassava and yams that are more widely consumed in West Africa.³⁵⁹ Commenting on the European HRs convention, Steven Greer boldly argues that, “*The principle of proportionality limits interference with Convention rights to that which is least intrusive in pursuit of a legitimate objective.*”³⁶⁰

Moreover, review of jurisprudence of international IP courts, such as the decisions of WTO Panels and the Appellate Body, indicates that they have not embraced the idea of limiting IPRs based on public interest considerations. For example, in the *European Communities-Geographical Indications*;³⁶¹ *US-Havanna Club*;³⁶² and *Canada-Patent Protection*³⁶³ decisions, the Panels and Appellate Body, while acknowledging the existence of public interest objectives, under TRIPS preamble and Articles 7 & 8, did not go further to apply the provisions. Rather, based on strict textual interpretation of TRIPS provisions, other obligations under TRIPS Articles 27:1, 28.1, and 30 were viewed as limiting the public interest exceptions.

This study proposes an instrumentalist and sui generis approach to integrating human rights and IPRs. The principal claim of the instrumentalist approach is that the rights created through the enactment of intellectual property laws are functional rights, created to serve certain objectives and fundamental human rights.³⁶⁴ The WTO Panel has legitimized this normative approach in the interpretation of article 30 of the TRIPS Agreement, which also provides a three-step test in patent

³⁵⁹ Laurence R. Helfer, “Mapping the Interference between Human Rights and Intellectual Property” in Christophe Geiger, ed, *Research Handbook on Human Rights and Intellectual Property* (Cheltenham: Edward Elgar Publishing, 2015) 6-15, at 12.

³⁶⁰ Steven Greer, “Constitutionalizing Adjudication under the European Convention on Human Rights” (2003) *Oxford Journal of Legal Studies*, 405 at 409.

³⁶¹ *European Communities-Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs* (2005) WT/DS174/R, para 7.246.

³⁶² *United States-Section 211 Omnibus Appropriations Act of 1998* (2001) WT/DS176/R (Panel Report) and (2002) WT/DS176/AB/2 at para.8.57(Appellate Body Report).

³⁶³ *Canada-Patent Protection of Pharmaceutical Products* (2000) WT/DS114/R, paras 7.24-7.26 (Panel Report).

³⁶⁴ Peter Drahos, *Intellectual Property and Human Rights* (1999) 3 *Intellectual Property Quarterly*, at 349-371.

law. According to this report, exploitation must be considered normal when it is “essential to the achievement of the goals of patent policy.”³⁶⁵

The text of IP regulations is normally approached from the perspective of the individual right of the IP holder. Under an instrumentalist approach, using teleological interpretation IP laws are assessed for their effectiveness in achieving the overarching public policy goals stated in Articles 7 & 8 TRIPS. Moreover, states are permitted to grant compulsory licenses, where necessary to protect public health considerations. These provisions point to the fact that IPRs are not absolute human rights, or an absolute form of property, but are rights which a country can adjust and place exceptions and limitations on for the greater public good.

2.3.5 The Right to Development

As defined in the UN Declaration, the right to development is “an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized”.³⁶⁶

Though the Declaration is not legally binding, as a subsequent agreement relating to human rights under Article 31.3(a) VCLT, it is relevant for the interpretation of current IP regulations and policies and for the formation of future IP treaties. The right defines development in a multifaceted manner to include political, social, economic, and cultural aspects; and places states under the obligation of putting in place processes that will facilitate the realisation of the right. This holistic view of development was confirmed in the Social and Economic Rights Action Centre (SERAC) judgment against the government of Nigeria, in which the African Commission describes the right

³⁶⁵ *Canada-Patent Protection of Pharmaceutical Products* (2000) WT/DS114/R, par. 7.58 (Panel Report).

³⁶⁶ UN General Assembly Declaration on the Right to Development A/RES/41/128 Article 1(1).

to adequate food as an integral part of the right to economic, social and cultural development enshrined in Article 22 of the African Charter.³⁶⁷ This position enhances the strength of food security as a human right, which IP protection may not compromise, rather than an optional exception to IP regulation.

In contrast to IP regimes like TRIPS and the UPOV that focus on the advancement of proprietary rights, companies, economics and free trade, Article 2(1) of the Declaration on the Right to Development makes advancement of the human person the central subject rather than the object of development. This would allow for a more holistic consideration of development in IP regulations in which social as well as economic advancement will be assessed. The need for balancing of interests is acknowledged in General Comment No 12 of the Committee on Economic, Social and Cultural Rights (CESCR), which affirms that the right to food requires the “adoption of appropriate economic, environmental and social policies”.³⁶⁸ This places an obligation on states to adequately cater for the social, environmental as well as economic conditions required for achieving the right to food, when entering into IP agreements with other states or with international organisations.³⁶⁹

While Article 3 of the Declaration on the Right to Development places primary responsibility for creating national and international conditions favourable for the realisation of the right to development on states, Article 2(2) places responsibility on humans collectively and individually to ensure its realisation. In the context of IP regulation this allows for placing obligations on innovators and companies owning IPRs for advancing developmental objectives. The granting of

³⁶⁷ *Social and Economic Rights Action Centre (SERAC) & Another v Nigeria* Comm 155/96 (2001) AHRLR 60 (ACHPR 2001) paras 64-65.

³⁶⁸ General Comment 12, para 4.

³⁶⁹ *Ibid* para 19.

IPRs alone will not be presumed to advance development, but will be justified by balancing of all relevant interests.

According to Article 3(2), the realisation of the right to development requires full respect for the principles of international law relating to friendly relations and co-operation among States. This would include the principles of differentiation, along with the interrelatedness and mutual supportiveness of other rights.³⁷⁰ Also, Article 9(1) of the Declaration states that all the aspects of the right to development are indivisible and interdependent and each of them should be considered in the context of the whole.

By allowing development methods to be adapted to suit varying contexts, the right to development avoids the complexity of pitching private economic rights protected in IP agreements against human rights, or establishing a hierarchy of rights.³⁷¹ Rather all relevant interests are integrated in a model that varies based on the context in which they are applied. Under the right to development, differentiation between countries will not be based only on economic considerations, but assessment of relevant non-economic impacts.

In relation to food security, IPRs will be regarded as advancing development where they advance conditions necessary for national or regional food security such as the nutritional value of food available in households, the technical and economic capacity of individuals, the conformity of produce with the cultural preferences of the people, as well as the possibility of utilisation of local agricultural products.

³⁷⁰ See VCLT Article 31(3)(c) and the 1993 Vienna Declaration and Programme of Action which states that ‘all human rights are universal, indivisible, and interdependent and interrelated.’

³⁷¹ Henning G. Ruse-Khan & Annette Kur, “Enough is enough: The notion of binding ceilings in international intellectual property protection” (2008) *Max Planck Institute for Intellectual Property, Competition & Tax Law Research Paper Series* No 09-01; UN Sub-Commission on the promotion and protection of human rights, *Intellectual Property Rights and Human Rights*, Res 2000/7 UNESCOR 2000 UN Doc E/CN.4/Sub.2/RES/S007/7, preamble & para 3.

The UN Declaration on the right to development,³⁷² as well as Article 22 of the African Charter on Human and Peoples Rights emphasize that in Africa, development requires granting states greater sovereignty over natural resources, as well as the right to adopt appropriate regional policies for advancing food security as an aspect of the right to development.³⁷³ They also call for sustained action by states to promote more rapid development in developing countries.³⁷⁴

The right to development makes differentiation a necessary aspect for its achievement. Thus, differentiation is not just an aspiration or exception which states might grant. The provisions of Articles 7, 8, and 27 of the TRIPS Agreement provide legal premises for designing *sui generis* plant variety protection and patent policies which may be adapted to suit West Africa's development interests. Support can also be obtained in the UN Declaration on the right to development, under which countries, in effecting the right to development, commit to take action to eliminate the developmental discrepancies created by racial discrimination, apartheid, colonialism and other unbalanced systems.³⁷⁵ By recognising such discrepancies, the declaration indicates that the right to development requires differential treatment between unequal parties or countries.

2.3.6 The 2018 UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP)³⁷⁶

Originally initiated by the international peasant movement La Via Campesina (LVC), UNDROP aims to protect the interests of peasants and small-scale producers, whose rights it alleged were

³⁷² UN General Assembly Declaration on the Right to Development, A/RES/41/128.

³⁷³ *Ibid*, article 2(3).

³⁷⁴ *Ibid*, article 4.2.

³⁷⁵ *Ibid*, article 5.

³⁷⁶ UN General Assembly, *United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, Human Rights Council Resolution*, 28th September 2018, A/HRC/RES/39/12.

being overlooked due to the fragmented nature of international law. As the UN High Commissioner for Human Rights, Michelle Bachelet stressed, “globally peasants feed the world, but their own enjoyment of human rights is challenged, including their own right to food.”³⁷⁷ The Declaration was drafted by the Third Committee, which handles human rights issues, among others, and adopted in 2018 by the UN General Assembly, with all 193 member nations in attendance.

UNDROP offers new possibilities for supporting food security in rural contexts. In its preamble the Declaration recognizes:

the past, present and future contributions of peasants and other people working in rural areas in all regions of the world to development and to conserving and improving biodiversity, which constitute the basis of food and agricultural production throughout the world, and their contribution in ensuring the right to adequate food and food security which are fundamental to attaining the internationally agreed development goals, including the 2030 Agenda for Sustainable Development.

It then goes further to prescribe obligations by which to ensure that food security is maintained by preserving the rights of peasants. The description of peasants in Article 1.1 of the Declaration as “any person who engages or who seeks to engage alone, or in association with others or as a community, in small-scale agricultural production for subsistence and/or for the market, and who relies significantly, though not necessarily exclusively, on family or household labour and other non-monetized ways of organizing labour, and who has a special dependency on and attachment to the land” would include a large number of subsistence farmers in Africa. The Declaration views the state as being the primary facilitator of rights in this regard and prescribes various measures to be adopted by states including “Providing, as appropriate, technical and economic assistance,

³⁷⁷ Riccardo Gangale, “UN Rights Chief Welcomes New Text to Protect Rights of Peasants and Other Rural Workers”, *UN News*, 18 December 2018. Online at: <<https://news.un.org/en/story/2018/12/1028881>>.

facilitating access to and sharing of accessible technologies, and through the transfer of technologies, particularly to developing countries, on mutually agreed terms” (Article 2.1(d))

The provisions of the Declaration that are most relevant to food security and IPR are those contained in Articles 15 and 19. Article 15.2 provides that “States shall ensure that peasants and other people working in rural areas enjoy physical and economic access at all times to sufficient and adequate food that is produced and consumed sustainably and equitably, respecting their cultures, preserving access to food for future generations, and that ensures a physically and mentally fulfilling and dignified life for them, individually and/or collectively, responding to their needs.” Under Article 15.2 “Peasants and other people working in rural areas have the right to determine their own food and agriculture systems, recognized by many States and regions as the right to food sovereignty. This includes the right to participate in decision-making processes on food and agriculture policy and the right to healthy and adequate food produced through ecologically sound and sustainable methods that respect their cultures.”

Article 19.1(a) grants peasants the right to control seed using the following words: “Peasants and other people working in rural areas have the right to seeds, in accordance with article 28 of the present Declaration, including: The right to the protection of traditional knowledge relevant to plant genetic resources for food and agriculture;” Article 19 is significant because it places obligations on states in order to protect peasants’ rights. Further, in Article 19.2, “Peasants and other people working in rural areas have the right to maintain, control, protect and develop their own seeds and traditional knowledge.” Under Article 19.7 “States shall take appropriate measures to ensure that agricultural research and development integrates the needs of peasants and other people working in rural areas...” While Article 19.8 requires States to “ensure that seed policies, plant variety protection and other intellectual property laws, certification schemes and seed

marketing laws respect and take into account the rights, needs and realities of peasants and other people working in rural areas.” This could allow for contextualization of IP regimes to fit West African context. Peasants rights might include prior informed consent and access and benefit sharing requirements of the CBD, ITPGRFA and other multilateral agreements. However, UNDROP provisions do not reference private rights of big businesses, this limits the effect they might have in issues relating to IP and food security.

As human rights, what impact will the rights of peasants under UNDROP have on the property rights granted in patents and PVP? As the UNDROP provisions do not seem to conflict with TRIPS directly, it will be most relevant under Article 31.3(c) for interpreting IP, trade and other agreements for parties that are signatories to it. This might require provisions for prior informed consent and benefit sharing from local communities before patenting local plants and genetic resources. One hindrance to applying the UNDROP to interpreting TRIPS and provisions for IP protection in regional agreements is that the European Community, UK and USA voted against the declaration. It will thus be of more value in determining conditions between African and Asian states who voted for it as it represents their common intentions. More importantly, a UN Declaration does not impose rights on parties. As a form of soft law, the UNDROP will have more relevance when enacted as legislation in national or regional IP regulations.

2.4 Addressing Conflicts between Multilateral Laws Regulating IP, Trade and Food Security

The above analysis indicates that the multilateral agreements regulating IP protection exist as parallel regimes to the international treaties providing for food security. This requires the integration of both hard and soft laws to advance food security. The International Law Commission

(ILC) recommends reference to the rules of general international law for conflict of norms, along with the rules concerning conflicts between legal systems as useful methods for dealing with such fragmentation.³⁷⁸

The resolution of a conflict between different treaty-based rules is principally reliant on the applicable conflict resolution rules, which may be sourced from either of the two (or more) applicable treaties, or from general international law. This section examines the application of general international law conflict norms to the relationship between TRIPS and TRIPS-plus FTAs. These norms, however, are relevant only to the extent that no specific conflict rules in either of the treaties apply. The ILC Report identifies legal maxims such as *lex specialis* (regarding relations between general and more specific rules), *lex posterior* (on relations between prior and subsequent rules), or *lex superior* (concerning relations between rules at different hierarchical levels) and their expressions in international law as primary conflict resolution tools. For the purpose of examining the relation between TRIPS and subsequent TRIPS-plus FTAs, the notions of *lex posterior* and *lex specialis*, and the general international law rules associated with them, are of primary relevance.³⁷⁹ In international law, these conflict resolution tools are expressed in general principles of law and in Articles 41 and 30 VCLT.

³⁷⁸ International Law Commission, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, UNGAOR, 58th Sess., U.N. Doc. A/CN.4/L.682 (2006), at para. 17; International Law Commission, *Report of the International Law Commission*, UNGAOR, 61st Sess., Supp. No. 10, U.N. Doc. A/61/10 (2006), at para. 251.

³⁷⁹ Since the relation between TRIPS and subsequent TRIPS-plus FTAs does not concern preemptory rules of international law *ius cogens* (see VCLT, *supra* note 35, art. 53) or U.N. Charter provisions (which prevail over other international law rules, U.N. Charter art. 103), notions of *lex superior* *ate.* are of limited relevance here.

2.4.1 General International Law

General international law fills the gaps left by treaties. It is the glue that binds the different sub-branches together. General international law ensures the existence of international law as a ‘legal system’. The fact that the WTO applies it confirms that the WTO treaty is part of the family.³⁸⁰

The analysis below reviews different ways to integrate or resolve treaty conflicts, namely by:

- (i) applying the principle of harmonious interpretation and presumption against ‘conflict’ in international law;
- (ii) (ii) applying the principle of treaty interpretation reflected in Article 31(3)(c) of the Vienna Convention;
- (iii) (iii) using treaties as evidence of facts;
- (iv) (iv) applying priority clauses;
- (v) (v) applying the *lex specialis* principle;
- (vi) (vi) applying the *lex posterior* principle reflected in Article 30 of the Vienna Convention; and
- (vii) (vii) applying the rule in Article 41 of the Vienna Convention regarding the modification of multilateral treaties by certain parties only (*inter se* modifications).

³⁸⁰ Joost Pauwelyn, “Foreword” in Graham Cook, *A Digest of WTO Jurisprudence on Public International Law Concepts and Principles* (Cambridge: Cambridge University Press, 2015), xiii at xiv.

i) The principles of harmonious interpretation, integration and presumption against conflict

The relationship between different rules of international law, and between different treaties is primarily governed by the need to secure harmonious interpretation.³⁸¹ The latter principle operates as a presumption against conflict between rules. When two norms accumulate, both of them continue to exist and have full effect. All norms are created in the background of existing norms, especially those of general international law. To the extent that the new norm (for example a new treaty) does not contradict or contract out of general international law, general international law applies also to this new norm. In other words, for all issues not explicitly regulated by the new treaty (in provisions either adding, confirming or contracting out of rights or obligations), pre-existing norms of international law continue to apply, especially general international law.³⁸² Further, the context in which new law is created is not limited to the context of general international law, but in the context of all rules of international law including other treaties. Where the later regulation does not contradict pre-existing treaties, the latter continue to apply. Utilization of the norms of other treaties or of general international law can take two forms:

- a) Interpretation of the treaty norms with reference to other norms of international law (pursuant to Article 31.3(c) VCLT: As long as the terms in the treaty norm are ambiguous enough, general international law definitions should be injected in the treaty norm. However, the other treaty to be relied on must reflect the common intentions of all parties to the treaty, while interpretations that go against the clear wording of treaties should not be considered.
- b) Applications of the treaty in the context of other norms of international law: In areas where a treaty remains silent, other norms of international law (specifically, those of general

³⁸¹ See International Law Commission, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, Report of the Study Group of the International Law Commission-Conclusions, 18 July 2006, UN Doc A/CN.4/L.702, at 8 [ILC Fragmentation Report].

³⁸² Joost Pauwelyn, *Conflict of Norms in Public International Law: How WTO Law Relates to Other Rules of International Law* (Cambridge: Cambridge University Press, 2003) at 201.

international law) continue to apply. As a result, a treaty cannot be applied in isolation. It must be applied together with those other norms of international law.³⁸³

The need to apply treaties, in the context of and together with other relevant international laws, was confirmed by the International Court of Justice (ICJ) in the *Gabcikovo- Nagymaros Project (Hungary v. Slovakia)* case, where the court observed that: “new [environmental] norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past.”³⁸⁴

In international law for a conflict to exist between two treaties, three conditions have to be satisfied. First, the treaties concerned must have the same parties. Second, the treaties must cover the same substantive subject-matter. Third, the provisions must conflict, in the sense that the provisions must impose mutually exclusive obligations. Technically speaking, a conflict exists when two (or more) treaty instruments contain obligations which cannot be complied with simultaneously.³⁸⁵ In cases where questions relating to potential treaty conflicts have arisen, WTO adjudicators have developed and applied a fairly narrow definition of a ‘conflict’³⁸⁶ and have found, in a number of cases, that overlapping obligations apply cumulatively. Panels and the Appellate Body have not lightly assumed the existence of conflicts among the WTO agreements, or between the WTO agreements and other international treaty obligations. The WTO judiciary has also followed the process of referencing international law for matters on which a WTO treaty

³⁸³ *Ibid*, at 201-203.

³⁸⁴ *Case concerning the Gabcikovo- Nagymaros Project* (Hungary v. Slovakia) (1997) ICJ Reports, para 140.

³⁸⁵ Graham Cook, *A Digest of WTO Jurisprudence on Public International Law Concepts and Principles* (Cambridge: Cambridge University Press, 2015), at 60-61

³⁸⁶ Appellate Body Report, Guatemala – Cement I, para. 65; Panel Report, EC – Bananas III (US), paras. 7.159–7.160.

remains silent.³⁸⁷ For example, in *US-Shirts and Blouses*, the Appellate Body applied rules on burden of proof pursuant to which, ‘the party who asserts a fact is responsible for providing proof thereof. It did so because the rules have been “generally accepted canon[s] of evidence in civil law, common law and, in fact, most jurisdictions”’.³⁸⁸ Also, The WTO Appellate Body (AB) has interpreted treaty terms in GATT in light of the UN Convention on the Law of the Sea (UNCLOS),³⁸⁹ and has indicated its willingness to consider a bilateral agreement as a guiding factor for its understanding of WTO rules if the former binds the parties to the WTO dispute.³⁹⁰

Between the various systems of international law, different obligations and rights are created at the multilateral, plurilateral, regional and bilateral level that address the same subject matter. Treaties on public health, environment, biological diversity, food security, access to knowledge, human rights and others deal with issues that interconnect with and affect IP laws. Considering the fragmentation in agreements relating to food security and IP issues, the interpretation and application of relevant treaties in IP regulation will play an important role in advancing food security interests in West Africa. Under public international law, countries are required to ensure the consistency between obligations they have entered into in order to avoid conflicts of law. Consequently, when countries commit to specific IP obligations in FTAs, they need to respect their international obligations in other international regimes. One way of taking earlier treaties into

³⁸⁷ See *Canada- Measures Affecting the Sale of Gold Coins*, not adopted, report circulated on 17 September 1985, L/5863, at para. 53 (Panel Report); and *United States-Countervailing Duties on Non-Rubber Footwear from Brazil* (1989) SCM/94, at para. 4.10 (Panel Report).

³⁸⁸ *United States- Measures Affecting Imports of Woven Shirts and Blouses from India* (1997) WT/DS33/AB/R, at 14 (Appellate Body Report) [US-Shirts and Blouses].

³⁸⁹ *UN Convention on the Law of the Sea* (UNCLOS), Montego Bay, 10 December 1982, 1833 UNTS 396; *United States- Import Prohibition of Certain Shrimp and Shrimp Products* (1998) WT/DS58/AB/R, at para. 130 (Appellate Body Report) [US-Shrimp].

³⁹⁰ *European Communities- Measures Affecting Trade in Large Civil Aircraft* (2011) WT/DS316/AB/R, at para. 845 (Appellate Body Report) [EC-Aircraft].

account when negotiating new treaties is by including exceptions and limitations that give effect to the concerns expressed in earlier treaties.

Similarly, within the IP law regime, especially in relation to TRIPS-plus FTAs, countries should sufficiently consider the concerns expressed in other IP treaties. The public interest-related flexibilities included in TRIPS reflect these concerns and should therefore be maintained.³⁹¹ Para 5 of the Doha Declaration, together with the balancing objectives set out in Art.7 TRIPS, the public interest principles of Art.8:1 guide the interpretation of every individual TRIPS provision - as much as the general rules of treaty interpretation, in particular the ordinary meaning of the individual treaty terms, allow. This means that particularly in cases of ambiguity, of broad and open treaty language where more than interpretation is possible, TRIPS provisions can and should be interpreted and applied in accordance with the balancing objective of Art.7, giving effect to public interest concerns expressed in Art.8. This thesis proposes that the interpretation and implementation of IP provisions in FTAs should be based on the balance that Arts. 7 and 8 of TRIPS seek to maintain. In practice, when countries implement provisions that serve the interests of IPR holders, they shall also maintain the right to draft exceptions, limitations or safeguards that aim at restoring the balance foreseen in the provisions. A framework by which this can be applied in West Africa is detailed in the fifth chapter of this thesis.

³⁹¹ Max Planck Institute on Innovation and Competition (2013) Principles for Intellectual Property Provisions in Bilateral and Regional Agreements, Principle 21. Online at: http://www.ip.mpg.de/fileadmin/ipmpg/content/forschung_aktuell/06_principles_for_intellectua/principles_for_ip_provisions_in_bilateral_and_regional_agreements_final.pdf.

(ii) Applying the principle of treaty interpretation reflected in Article 31(3)(c) of the Vienna Convention

Article 31.3(c) of the Vienna Convention provides that a treaty interpreter shall take account of ‘any relevant rules of international law applicable in the relations between the parties.’

The WTO AB confirmed the relevance of Article 31 for interpreting WTO law in *Japan-Taxes on Alcoholic Beverages*³⁹² where it clarifies that: “Article 3.2 of the *DSU* directs the Appellate Body to clarify the provisions of GATT 1994 and the other "covered agreements" of the *WTO Agreement* "in accordance with customary rules of interpretation of public international law". Following this mandate, in *United States - Standards for Reformulated and Conventional Gasoline* we stressed the need to achieve such clarification by reference to the fundamental rule of treaty interpretation set out in Article 31(1) of the *Vienna Convention*. We stressed there that this general rule of interpretation "has attained the status of a rule of customary or general international law". There can be no doubt that Article 32 of the *Vienna Convention*, dealing with the role of supplementary means of interpretation, has also attained the same status.”³⁹³

In several cases, panels and the Appellate Body have declined to take account of non-WTO instruments to interpret WTO provisions on the grounds that those instruments did not qualify as ‘relevant rules of international law applicable in the relations between the parties’; in some cases, panels and the Appellate Body have taken other international instruments and/or principles of customary international law into account, either on the basis that they did so qualify under Article 31.3(c), or without any express reference to Article 31.3(c). In those cases where WTO adjudicators have considered other treaties and/or international law concepts and principles pursuant to Article 31.3(c), this has generally been to support an interpretation arrived at on the

³⁹² AB-1996-2, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R.

³⁹³ AB-1996-2, at 10.

basis of the text, context and purpose of the provision at issue. To date, there is no case in which a WTO adjudicator has justified its interpretation of a WTO provision expressly and primarily on the basis of Article 31.3(c).³⁹⁴

For example, in *US – Gasoline*, the Appellate Body, without mentioning Article 31(3)(c), stated that Article 3.2 of the DSU, which provides that the WTO dispute settlement system serves to clarify the existing provisions of the covered agreements in accordance with customary rules of interpretation of public international law, ‘reflects a measure of recognition that the General Agreement is not to be read in clinical isolation from public international law’.³⁹⁵ In *US – Shrimp*, the Appellate Body concluded that the meaning of the term ‘exhaustible natural resources’ in Article XX(g) of the GATT is not confined to non-living (e.g. mineral) resources. The Appellate Body, without referring to Article 31(3)(c) of the Vienna Convention, referred to several international conventions and international instruments as support for that view, including the UN Convention on the Law of the Sea (UNCLOS) and the CBD. In *US – Shrimp*, the Appellate Body noted that most of the international instruments referred to above had been ratified or otherwise accepted by the parties to the dispute, and/or were regarded, in the case of UNCLOS, as reflecting customary international law.³⁹⁶

(iii) Using treaties as evidence of facts

In a number of cases, WTO Panels and the Appellate Body have referred to other international legal instruments, not for the purpose of interpreting a WTO provision (through Article 31(3)(c) or otherwise), but rather as evidence of one or more factual conclusions. For example, in *EC –*

³⁹⁴ Cook, *supra* note 390, at 65.

³⁹⁵ Appellate Body Report, *US-Gasoline*, at 17.

³⁹⁶ Appellate Body Report, *US – Shrimp*, paras. 130–1, 110-13.

Tariff Preferences, the Appellate Body examined the Enabling Clause, which establishes conditions for granting tariff preferences to developing countries (which would otherwise violate the most favoured nation obligation in Article I of the GATT). The Appellate Body stated that a particular need cannot be characterized as one of the specified ‘needs of developing countries’, in the sense of paragraph 3(c) of the Enabling Clause, based merely on an assertion to that effect by a preference-granting country or a developing country benefitting from such a preference. Rather, the Appellate Body considered that ‘[b]road-based recognition of a particular need, set out in the WTO Agreement or in multilateral instruments adopted by international organizations’ could serve as evidence that the particular need was a ‘need of developing countries’.³⁹⁷ In that connection, the Appellate Body noted that the European Communities had referred to ‘several international conventions and resolutions that have recognized drug production and drug trafficking as entailing particular problems for developing countries.’³⁹⁸

Other international instruments have been referred to as evidence for the factual conclusions that unilateral measures are not the only means that States have to protect migratory species of animals, that certain product bans could have been foreseen at a given point in time, that States follow certain practices in the field of double taxation, that a particular problem is one encountered by developing countries, or that certain fees were set at a level which would be insufficient to cover the long-term operating costs and losses of certain export credit programs. This approach offers possibilities for considering food security issues in IP regulation. Since the main problem under the Art.31:3 c) VCLT approach is that the more conservative view requires all parties to the treaty under interpretation (e.g. TRIPS) also to be bound by the treaty / instrument used to interpret the other (e.g. the CBD and ITPGRFA) - often other rules / treaties are used as

³⁹⁷ Appellate Body Report, EC – Tariff Preferences, para. 163.

³⁹⁸ *Ibid.*

factual (not legal) elements. This approach was adopted by the WHO Framework Convention on Tobacco Control to show that there is a global consensus to act against smoking, including by limiting the use of tobacco trademarks, an approach adopted by both the WTO Panel in *Australia - Plain Packaging*,³⁹⁹ and the International Centre for Settlement of Investment Disputes tribunal in *Philip Morris vs Uruguay*.⁴⁰⁰

(iv) Applying priority clauses

Priority clauses clarify which provisions prevail in the event of a conflict among certain provisions contained within a treaty, or between provisions contained in different treaties. It is a common drafting convention for such priority clauses to state that one set of rules is ‘subject to’ the other. Certain WTO provisions state that some WTO rights and obligations are ‘subject to’ others, and this phrase has been interpreted and applied by panels and the Appellate Body. For example, in *Canada – Dairy*, the Appellate Body stated: “In our view, the ordinary meaning of the phrase ‘subject to’ is that such concessions are without prejudice to and are subordinated to, and are, therefore, qualified by, any ‘terms, conditions or qualifications’ inscribed in a Member’s Schedule.”⁴⁰¹

³⁹⁹ *Australia-Certain Measures Concerning Trademarks, Geographical Indications and Other Plain Packaging Requirements Applicable to Tobacco Products and Packaging* (2018) WTO-SCI, 28 June 2018, (18-4061), revising WT/DS435/R, WT/DS441/R, WT/DS458/R, and WT/DS467/R [Australia-Plain Packaging].

⁴⁰⁰ *Philip Morris Brands Sarl, Philip Morris Products S.A. and Abal Hermanos S.A. v. Oriental Republic of Uruguay*, (2016) ICSID Case No. ARB/10/7.

⁴⁰¹ Appellate Body Report, *Canada – Dairy*, para. 134.

(v) ***Lex specialis derogate legi generali* (relations between general and more specific rules)**

Under this principle where two or more norms deal with the same subject matter, priority should be given to the more specific norm.⁴⁰² This would be relevant to determining relations between agreements produced within a system, or to advance similar objectives. It would be relevant for assessing the relationship between the Berne Convention, Paris Convention, and TRIPS. However, it would be of limited utility in determining relations between TRIPS and other free trade agreements (FTAs) with different objectives that also provide for IP protection such as the AU Model law, OAPI and ARIPO agreements.

The notion of *lex specialis derogat legi generali* may also function as a relevant conflict resolution tool between TRIPS and TRIPS-plus provisions in FTAs. As a general principle of (international) law, it suggests that, whenever two or more norms deal with the same subject matter, priority should be given to the norm that is more specific since it often takes better account of the particular context addressed or creates a more equitable result.⁴⁰³ The *lex specialis* principle only applies between those states which are bound by both norms—in this case the two international IP treaties. A classic example of application of *lex specialis*, between provisions of distinct international IP treaties are those WIPO Copyright Treaty rules which clarify the application of certain more general rules of the Berne Convention in the digital network environment." In relation to TRIPS and TRIPS-plus FTAs, one could assume that the often specific and very detailed provisions in FTAs are *lex specialis* to the more general rules contained in

⁴⁰² Ruse-Khan, The Protection of IP in International Law, *supra* note 234, at 42.

⁴⁰³ ILC Fragmentation Report, *supra* note 386, at 8-9, para. 14.5.

TRIPS. In at least one instance, an FTA explicitly considers its IP provisions as specifying TRIPS.⁴⁰⁴

This would not necessarily entail that the TRIPS rule be totally set aside between countries that have signed an FTA. Rather as the more general rule, it "will remain valid and applicable and will, in accordance with the principle of harmonization, continue to give direction for the interpretation and application of the relevant special law and will become fully applicable in situations not provided for by the latter."⁴⁰⁵ The ILC report further notes that, in scenarios where the special law might frustrate the purpose of the general law, where third party beneficiaries are negatively affected by the special law, and *where the balance of rights and obligations established in the general law would be negatively affected by the special law, the general law prevails.*⁴⁰⁶ The last situation may provide a relevant exception to the operation of the *lex specialis* rule in cases of TRIPS-plus FTA provisions which tilt the balance of rights and obligations; mentioned in the TRIPS objectives in Article 7 too heavily in favor of rights holders. The scope of application of the *lex specialis* maxim hence depends on the individual TRIPS rule and its TRIPS-plus counterpart.

(vi) *Lex posterior derogate legi priori* (relations between prior and subsequent rules)

Article 30 of the VCLT concerns the application of successive treaties on the same subject matter. In its relevant paragraphs 2-4, Article 30 VCLT provides:

2. When a treaty specifies that it is subject to, or that it is not to be considered as incompatible with, an earlier or later treaty, the provisions of that other treaty prevail.

⁴⁰⁴ See *EU—Colombia—Peru Free Trade Agreement*, Art. 196, Mar. 24, 2011 ("The provisions of this Title shall *complement and specify* the rights and obligations of the Parties under the TRIPS Agreement" (emphasis added)). Henning, TRIPS-Plus FTAs, *supra* note 22, at 344-345.

⁴⁰⁵ ILC Fragmentation Report, *supra* note 386, at 9-10, para. 14.9.

⁴⁰⁶ ILC Fragmentation Report, *supra* note 386, at 10.

3. When all the parties to the earlier treaty are parties also to the later treaty but the earlier treaty is not terminated or suspended in operation under article 59, the earlier treaty applies only to the extent that its provisions are compatible with those of the latter treaty.
4. When the parties to the later treaty do not include all the parties to the earlier one that:
 - (a) as between States parties to both treaties the same rule applies as in paragraph 3;
 - (b) as between a State party to both treaties and a State party to only one of the treaties, the treaty to which both States are parties governs their mutual rights and obligations.

VCLT Article 30.2 contains an exception from the general *lex posterior derogate legi priori* principle embodied in VCLT Articles 30.3 and 4. Article 30.2 applies to provisions which indicate the intention of the negotiating parties that, instead of the later, the earlier treaty shall prevail. Classic examples in the international IP context are Article 2.2 TRIPS or Article 1.2 of the WIPO Copyright Treaty, each of which states that its provisions shall not "derogate from existing obligations" under various preexisting multilateral IP treaties, such as the Berne Convention on the Protection of Literary and Artistic Works." FTAs may contain several variations on these types of conflict clauses. In the absence of a specific provision, the general rule in Article 30.3 VCLT resolves conflicts between provisions deriving from subsequent treaties on the same subject matter in favour of the later treaty provision. Thus, any subsequent TRIPS-plus FTA provision would prevail in its application over a TRIPS rule to the extent that these provisions are in conflict. However, this applies only for those contracting parties which are bound by both the earlier and the later treaty—in our case, only to those WTO Members which are equally bound by the subsequent FTA. For WTO Members which are not bound by the potentially conflicting TRIPS-plus FTA rule, Article 30.4(b) VCLT makes clear that regarding their relation to the FTA parties, TRIPS prevails. In essence, this is an expression of the general principle embodied in VCLT

Article 34 that "a treaty does not create either obligations or rights for a third State without its consent."

This principle generally grants subsequent rules precedence over former laws. However, this would not always guarantee the ascendancy of later rules. Article 30.2 VCLT focuses on the adoption of successive treaties on the same subject matter and states that where a treaty specifies that it is subject to, or not to be incompatible with an earlier or subsequent treaty, the provisions of the other treaty prevail. Consequently, provisions such as Article 46 of the Cotonou Agreement, that incorporates TRIPS in relevant treaties adopted in West Africa, would also imply that these regional agreements should not derogate from the balance of interests and flexibilities provided in TRIPS.

(vii) Article 41 VCLT

Article 41 VCLT regulates relations between a multilateral treaty and subsequent agreements made to modify the treaty by providing that the later amendments should not interfere with third party rights or the general objectives of the multilateral treaty. In relation to IP regulation, this provision implies that where FTAs are made by WTO member states to modify TRIPS, TRIPS functions as a constitutional framework with a common objective from which FTAs cannot derogate.⁴⁰⁷ This would provide a basis for rejecting changes in newer FTAs whose provisions neglect the balance of interests and objectives stated in TRIPS Articles 7 and 8.

In respect to TRIPS rules and subsequent TRIPS-plus IP provisions in FTAs, the *lex posterior* conflict rule demands primary attention since "the *lex posterior* principle is at its strongest in regard to conflicting or overlapping provisions that are part of treaties that are

⁴⁰⁷ *Ibid*, at 40.

institutionally linked or otherwise intended to advance similar objectives (i.e., form part of the same regime)."⁴⁰⁸The expression of this principle in Article 41 VCLT concerns the question whether a multilateral treaty allows for some of its contracting parties to conclude subsequent agreements *inter se*, whereas Article 30 VCLT deals with priority in application between all types of subsequent treaties on the same subject matter. In contrast, Article 41 VCLT concerns only those situations where some of the contracting parties to a multilateral treaty modify their treaty relations amongst each other (*inter se*). Article 41 VCLT addresses the "preliminary question" whether the prior multilateral treaty allows the conclusion of a bi- or plurilateral treaty. It provides that:

1. Two or more of the parties to a multilateral treaty may conclude an agreement to modify the treaty as between themselves alone if: (a) the possibility of such a modification is provided for by the treaty; or (b) the modification in question is not prohibited by the treaty and:
 - (i) does not affect the enjoyment by the other parties of their rights under the treaty or the performance of their obligations; (ii) does not relate to a provision, derogation from which is incompatible with the effective execution of the object and purpose of the treaty as a whole.
2. Unless in a case falling under paragraph 1(a) the treaty otherwise provides, the parties in question shall notify the other parties of their intention to conclude the agreement and of the modification to the treaty for which it provides.

In relation to the WTO/TRIPS Agreement, post-1995 FTAs with provisions on IP protection beyond TRIPS standards are such *inter se* agreements because they generally are concluded by some Members of the WTO to modify the TRIPS obligations amongst themselves—mainly by adopting stronger standards. This would make the FTA's applicability (in relation to TRIPS) subject to the requirements of VCLT Article 41. TRIPS does not contain an explicit allowance or

⁴⁰⁸ ILC Fragmentation Report, *supra* note 386, at 18, para. 26.

prohibition of *inter se* modifications.⁴⁰⁹ Thus, under the two alternatives of Article 41:1 (b) VCLT, TRIPS-plus FTAs

- (1) “may not affect the enjoyment of TRIPS rights or obligations by other (non-FTA) WTO Members;
- (2) nor may they affect the effective execution of TRIPS' object and purpose.” (Article 41.1 VCLT)

Based on the territoriality of IP rights, TRIPS-plus provisions in FTAs generally affect the domestic IP regimes of the FTA contracting parties only. Equally, TRIPS rights and obligations relate to domestic implementation only, so that *inter se* modifications can hardly affect other WTO Members. The remaining question is whether any TRIPS-plus standard derogates from a TRIPS rule in a way that is incompatible with the TRIPS objectives expressed in Articles 7 and 8.⁴¹⁰ Given the very general terms used in the balancing objectives and public interest principles of TRIPS, this standard seems difficult to apply. Does it mean that VCLT Article 41:1(b)(ii) invalidates any TRIPS-plus standard that derogates from a TRIPS provision which is part of the balance expressed in Article 7 or allows effect to be given to the public interests addressed in Article 8? Since the effects of *inter se* modifications in the form of additional IP protection are generally confined to the national IP regimes of the modifying parties, this type of *inter se* derogation from TRIPS flexibilities as such cannot be viewed as incompatible with the “effective execution of the object and purpose of the treaty as a whole.”⁴¹¹ Instead, an *effect on other WTO Members* and their ability to implement the TRIPS objectives should be required for a finding of incompatibility. As argued

⁴⁰⁹ TRIPS, Art. 71:2, concerns “Amendments merely serving the purpose of adjusting to higher levels of protection of intellectual property rights achieved, and in force, in other multilateral agreements and accepted under those agreements by all Members of the WTO” and therefore does not concern *inter se* Agreements such as TRIPS-plus FTAs accepted only by some WTO Members.

⁴¹⁰ Doha Declaration, para 5(a)

⁴¹¹ Article 41.1 VCLT.

in relation to the first option under Article 41:1(b) VCLT, such cases of negative impact on a WTO Member which is not a contracting party to the ETA will be very rare and exceptional.⁴¹²

Finally, under Article 41:2 VCLT, "the parties in question shall notify the other parties of their intention to conclude the agreement and of the modification to the treaty for which it provides." Unless the FTA negotiating parties have discharged their notification duty with respect to all other WTO Members,⁴¹³ they are acting in violation of Article 41:2 VCLT. However, it seems doubtful that any inconsistency with this provision will have any (practical) effect. In sum, cases where TRIPS-plus FTAs may be inapplicable due to inconsistencies with article 41 VCLT will be extremely rare.

2.4.2 Systems Theory

Previous examinations of the relationships between IP regulations with principles and provisions that interrelate in some orchestrated manner have been based on the view of IP laws as coordinated legal system.⁴¹³ Provisions in TRIPS that future agreements by WTO members should not compromise IPRs and standards in TRIPS reflect the view of IP regulation as being systemic. Provisions in regional agreements such as Article 4 PAIPO, requiring increased harmonization of IP laws and policies in Africa with previous multilateral arrangements also indicate this conventional view of IP protection.

However, viewing IP and food security regulation in West Africa as a conventional system is challenging, as a system presupposes the existence of generally accepted and applicable norms and principles which could serve as connecting factors. The current framework for IP protection

⁴¹² Henning Grosse Ruse-Khan, "The International Law Relation between TRIPS and Subsequent TRIPS-Plus Free Trade Agreements: Towards Safeguarding TRIPS Flexibilities?" (2011) 18:2 *Journal of Intellectual Property*, 325, at 342. [Henning, TRIPS-Plus FTAs]

⁴¹³ ILC Fragmentation Report, *supra* note 386, at 3-4, para.6.

in West Africa, which is based on fragmented agreements with different objects, terms, sets of parties, and varying standards of IP protection set by ARIPO and OAPI, does not provide such coordination. In light of these facts, in this analysis, IP regulation in West Africa is not viewed as a traditional system with a central arbiter, but rather as an arrangement of parallel agreements that, lacking common denominators, should be coordinated on the basis of an alternative framework that effectively integrates the objectives of all relevant agreements.

Scholars advocate the application of a *conflict of laws* approach as more appropriate for coordinating interactions between specialized treaty regimes.⁴¹⁴ This view finds support in Article 41 VCLT which, in regulating the relationship between present and future multilateral agreements, states that follow up agreements are not to deviate from rules which are necessary for the effective execution of the object and purpose of the treaty as a whole. This indicates that greater weight should be given to provisions that advance the overall purpose and goals of laws. As such, where a decision has to be made between the regulations from different systems, “the underlying rule-system applies which is more able to integrate the other system’s rules.”⁴¹⁵

2.4.3 General International Law for Integration, Conflict of Norms

The relationship between two valid and applicable rules in international law can be determined based on two categories of norm relations:

- i) Relationship of Interpretation: This occurs where one norm assists in the interpretation of another for application, clarification, updating, or modification. This involves the application of both norms/rules in combination.
- ii) Relationships of Conflict: This occurs where two principles that are valid and applicable lead to incompatible decisions, such that a choice

⁴¹⁴ Ruse-Khan, *The Protection of IP in International Law*, *supra* note 234, at 18-19.

⁴¹⁵ *Ibid.*, at 54-55.

has to be made between them. The basic rules for resolving conflicts between norms can be found in the VCLT.⁴¹⁶

This thesis adopts the categorizations made by the International Law Commission (ILC) to address the relationships between international laws. These categories are:

- i) Relations of law to its normative environment: This is governed by the principle of harmonious interpretation and systemic integration of laws provided in Article 31.3(c) of the VCLT. This principle applies to principles of interpretation as established in Articles 31-33 of the VCLT
- ii) Relations between special and general law: This is ruled by the *les specialis derogate legi generali* principle and specific provisions in special regimes and regionally contained rules
- iii) Relations between prior and subsequent laws: These relationships are administered by the *lex posterior derogate legi priori* principle contained in Article 30 of the VCLT, (applicable to successive treaties dealing with the same subject matter); and provisions for *inter se* agreements (where some parties modify a treaty among themselves) as stated in Article 41 of the VCLT.
- iv) Relations between norms at different hierarchical levels: Because there is an absence of hierarchy between the sources of international law, this relationship may be guided by the *jus cogens* principle (stated in Article 53 of the VCLT); Article 103 of the UN charter; and rules stipulating responsibilities to the international community as a whole (*obligations erga omnes*).

Pauwelyn emphasizes that “the main problems with fragmentation are technical, not normative, in nature. If the resolution of conflicts were only possible within a coherent system,

⁴¹⁶ ILC Fragmentation Report, *supra* note 386, at 6-9.

then the question of whether international law is such a system would have direct normative implications. If, by contrast, it can be shown that conflicts can be resolved also in the absence of one coherent system, then what looked like a normative question becomes a technical one: *the prime question is then which of different types of technical rules we have to apply to deal with the conflict.*" (emphasis added) Pauwelyn and Michael have also espoused the application of conflict of laws principles in overcoming the fragmentation of rules in international law.⁴¹⁷ Conflict of law represents another set of rules in "traditional law" concerned with conflicts between legal systems (which we will refer to as "conflict of laws" or "private international law" solutions). These rules are typically rules of domestic law that determine which of several domestic substantive laws should apply (e.g., whether Belgian or German law applies to a fact pattern), according to certain factors, for example, the location of the object in question or the nationality of the parties. Rules on conflict of laws are also mostly rules of domestic law (though they have at least in part been derived from principles of international law), but they have been applied to conflicts between the laws of different states, not to conflicts between different treaties. The result has been that international law can actually borrow rules from both, and that different sets of rules are better for different types of conflicts. Similarly, in seeking ways to harness IP regulations to advance food security in West Africa, this thesis adopts a functionalist approach that does not focus on hierarchy of norms or systems, but rather acknowledges that in the absence of specific provisions establishing the relationship between treaties, general international law rules and principles can be applied to determine the relationship between agreements.

⁴¹⁷ Ralf Michaels & Joost Pauwelyn, "Conflict of Norms or Conflict of Laws? Different Techniques in the Fragmentation of International Law" (2012) 22:3 *Duke Journal of Comparative and International Law*, 349 [Michaels & Pauwelyn, Conflict of Norms].

2.4.4 Conflict of Norms and Hierarchical Regimes: *Lex superior* (relations between rules at different hierarchical levels)

A popular way of analyzing relations between legal norms is to categorize regulations into regimes (based on hierarchy of norms, specificity, or time of making an agreement). The appropriateness of viewing international IP laws as a chain of command in which some norms are granted priority has been strongly questioned by authors such as Pauwelyn.⁴¹⁸ This approach would be less practicable in considering relations between regional and international legal regimes, which while acknowledging other agreements in some provisions, are still couched in a manner as to give the norms of the creating institution ascendancy. An illustration is the provisions of Article 30 TRIPS which limits TRIPS flexibilities by stating that exceptions should not interfere with the ordinary working of a patent; and Article 22 of the CBD, which states that the provisions of previous multilateral agreements should not be affected by the CBD, ‘except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity’.

Under the rule of *lex superior derogat legi inferiori*, the hierarchically superior norm trumps the hierarchically inferior. As such it can be argued that since human rights are hierarchically superior to property rights (like IPRs), agreements protecting human rights should be given greater weight than those focusing on IP protection. While this principle might prove useful in interpreting the provisions of IP agreements, they will be difficult to apply in the international scene where the WTO TRIPS Agreement contains mandatory provisions that are enforceable under the dispute and settlement system of the WTO. In contrast, provisions for farmers’ rights, fair access and use of genetic resources through access and benefit sharing, in agreements like the CBD and ITPGRFA are couched in more aspirational optional terms.

⁴¹⁸ *Ibid.*

Moreover, because the multilateral treaties governing IPRs and food security have different functions, applying the above interpretive principles is of limited use. This is because such rules require a unitary lawmaker with a coherent legislative intent.⁴¹⁹ For example, while the CBD aims at conservation of biodiversity through equitable distribution of benefits arising from biological resources, TRIPS focuses on protecting private rights in innovation including those relating to such resources. Article 22 of the CBD indicates that the CBD does not claim absolute superiority over other treaties. No hierarchy is established between the two agreements, rather they are supposed to support each another. Considering the limitations of current multilateral IP and food security related regimes, reconciling the objectives of relevant agreements requires the formulation of alternative IP frameworks, at the regional and domestic level.

2.4.5 Autonomous Systems requiring Substantive Integration

Under this approach, treaties and legal regimes are viewed as parallel to one another and, based on the horizontal approach under Article 31 of the VCLT, agreements can be interpreted autonomously of one another. Considering the highly interconnected nature of IP regulations in modern law, a view of isolation of any system of law is impracticable. Rather, a system ought to be sought that balances sovereign space so as to reduce erosion of other agreements. This research overcomes the shortcomings of the above-mentioned theories by adopting a functional approach to resolving conflicts between legal norms and treaties, which aims at integrating relevant regulations in the differentiated context of West Africa.

⁴¹⁹ *Ibid.*, at 355.

2.5 Africa's Need for a *Sui Generis* Framework

Modern research focusing on Africa proposes adoption of a *sui generis* regime as the best framework for integrating Farmers' rights and PBRs to support the continent's food security interests.⁴²⁰ This is based on the fact that alternative *sui generis* systems for IPRs allow for more flexibility for setting balances between the interests of diverse actors and for harmonizing IP with customary norms in comparison with the predetermined frameworks under TRIPS and the UPOV. Therefore, West African countries might like to consider developing common standards for regional harmonization of national PVP laws based on a *sui generis* approach, which will protect the region's food security interests.

The desirability of *sui generis* regulation is confirmed by the actions of Africa's regional organizations. For example, in 1999, Kenya's communication to the WTO on behalf of the African Group it asked for the revision of TRIPS to prohibit the patenting of life forms and permit national *sui generis* regulation in African states to protect the rights of farmers, indigenous and local communities, based on a recommendation of the Organization for African Unity (OAU). The African Group and the African Caribbean and Pacific (ACP) countries put forward a similar request in 2001, at the WTO Ministerial meeting in Doha.⁴²¹

⁴²⁰ See Alliance for Food Security and Sovereignty in Africa [AFSA], "AFSA Submission for Urgent Intervention in Respect to Draft ARIPO Plant Variety Protection Protocol (PVP) and Subsequent Regulations", (July 2014). Online: <<http://acbio.org.za/wp-content/uploads/2015/02/AFSA-Submission-ARIPO-PVP-Protocol.pdf>> (accessed 8 June 2016); P Munyi, B de Jonge & B Visser, "Opportunities and Threats for to Harmonisation of Plant Breeders' Rights in Africa: ARIPO and SADC" (2016) 24:1 *African Journal of International and Comparative Law* 86; C. M Correa, S. Shashikant and F. Meienberg, *Plant Variety Protection in Developing Countries: A Tool for Designing a Sui Generis Plant Variety Protection System: an Alternative to UPOV 1991* (Bonne: ARBRES 2015); Oguamanam, IP Agricultural Biotechnology and the Right to Adequate Food, *supra* note 151; Devlin Kuyek, "Intellectual Property Rights in African Agriculture: Implications for Small Farmers", *GRAIN*, August 2002, at 16 [Kuyek, IPRs in African Agriculture].

⁴²¹ Third World Network, "Africa Group Proposals on TRIPS for WTO Ministerial," online: <<http://www.twinside.org.sg/title/trips2.htm>>; *ACP Declaration on the Fourth Ministerial*, Brussels, 5 to 6 November 2001, Communication from Kenya, WT/L/430 (2001).

The ultimate responsibility for implementing farmers' rights lies on individual states. India and Zambia provide two examples of states that have already taken significant legislative action in this area. The ITPGR leaves states to create their own methods of protecting farmers' rights and TRIPS leaves the choice of how to implement protection for plants and genetic resources to member countries. As a result, nations are ultimately responsible for the way in which IPRs and farmers' rights interact domestically.⁴²²

In 1998, in an attempt to integrate their obligations under TRIPS to provide PVP, with their commitment in non-IP multilateral agreements to support food security in the African context,⁴²³ the Council of Ministers of the Organization of African Unity (OAU) adopted a Model Law for the Protection of the Rights of Local Communities, Farmers, Breeders and Regulation of Access to Biological Resources. The language of the Model Law indicates that because a majority of food agriculture in the continent is based on subsistence farming, using traditional knowledge and local practices like the free exchange and reuse of seeds by farmers, achieving food security in the region will require the accommodation of community rights, farmers' rights, prior informed consent and disclosure of origin of plants and genetic materials, and access and benefit sharing obligations as a necessary part of IP regulations in Africa.

According to the Model Law, the rights of local communities over their biological resources, knowledge and technologies represent the very nature of their livelihood systems and have evolved over generations of human history, are of a collective nature and, therefore, are a priori rights which take precedence over rights based on private interests.⁴²⁴ The objective was to recognize

⁴²² Winter, *Cultivating Farmers' Rights*, *supra* note 319, at 251.

⁴²³ J. A. Ekpere, *The OAU's Model Law: The Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, An Explanatory Booklet* (Lagos: Organisation of African Unity, Scientific, Technical and Research Commission, 2000) at 4.

⁴²⁴ OAU Model Law, Part I, Objectives; Part IV, Community Rights, Articles 16, 18, 20-21 and 23.

and protect the rights of breeders on the one hand and farmers' rights on the other. The Model Law granted farmers exclusive rights including the rights to use, save, sell and exchange seed or propagating material. In particular, farmers' rights would include the right to:⁴²⁵ (a) the protection of their traditional knowledge relevant to plant and animal genetic resources; (b) obtain an equitable share of benefits arising from the use of plant and animal genetic resources; (c) participate in making decisions, including at the national level, on matters related to the conservation and sustainable use of plant and animal genetic resources; (d) save, use, exchange and sell farm-saved seed/propagating material of farmers' varieties; (e) use a new breeders' variety protected under this law to develop farmers' varieties, including material obtained from gene banks or plant genetic resource centres; and (f) collectively save, use, multiply and process farm-saved seed of protected varieties. However, farmers would not have the right to sell farm-saved seed/propagating material of a breeders' protected variety in the seed industry on a commercial scale. In addition, breeders' rights on a new variety would be subject to restriction with the objective of protecting food security, health, biological diversity and any other requirements of the farming community for propagation material of a particular variety.⁴²⁶

This study views the African Model Law as an example of a framework to provide an effective *sui generis* system that would protect rights of plant breeders while considering farmers' rights. Room exists for adoption of *sui generis* models in TRIPS, and the Doha Declaration.

2.6 Conclusion

The multilateral IP regime allows for food security advancement in regulations that provide for public interest objectives for IP protection; along with exceptions and limitations to IPRs for public

⁴²⁵ OAU Model Law, Article 26.

⁴²⁶ Strba, Legal and Institutional Considerations for PVP, *supra* note 221, at 192-193.

interest purposes including public health, biodiversity, the environment, and the status of a country as an LDC or developing country. However, given the lack of detailed analysis and non-application of TRIPS objectives and flexibilities in international WTO jurisprudence,⁴²⁷ policy space exists for the development and implementation of these flexibilities through regional IP treaties in West Africa.

Furthermore, the multilateral IP regime adopts the principle of differentiation, which allows countries to adopt varying methods or forms in implementing IP standards. The WTO TRIPS Agreement provisions in Article 27 are, especially relevant in relation to food security, as they allow countries and regions to design alternative frameworks for plant protection suited to their food security interests.⁴²⁸ Consequently, harnessing IP regulation to advance food security requires the development of differentiated IP laws and policies at the regional level, specifically designed to support the conditions necessary for food security in West Africa, as espoused in the first chapter of this thesis. Applying the differentiation principle to further food security in West Africa will require provisions for national sovereignty, farmers' rights, prior and informed consent, access and benefit sharing, and human rights exceptions, at the regional level.

Because IP and food security are regulated by a number of fragmented multilateral agreements whose subject matters overlap, but which vary greatly in overall objectives, advancing food security necessitates development of a framework that integrates multilateral interests like increased global trade with regional food security interests in West Africa. This may be achieved

⁴²⁷ In *Canada – Patent Protection of Pharmaceutical Products* and *European Communities–Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, the Panels mention Articles 7 and 8, but stop short of applying them to create legal rights and obligations. Similarly, the decisions in *Canada – Term of Protection* and *US – s211 Omnibus Appropriations Act of 1998* recognize these provisions as expressions of general international law such as the ‘good faith’ principle, without detailed assessment of how these provisions are to be understood and applied.

⁴²⁸ Laurence Helfer “Intellectual property rights in plant varieties: International legal regimes and policy options for national governments” (2004) *FAO Legislative Study* 85.

by applying the conflict of laws principles found in general international law to the interpretation and implementation of IP regulation.

West Africa's regional agreements must also allow for dynamic interpretation of IP laws, so as to adopt changing multilateral perspectives of IP norms as demonstrated in the Doha Declaration, which indicate that the public interest objectives of IP protection be given greater weight in the formation and implementing of IP systems. Several IP concepts relevant to food security, including 'innovation', remain unclear in multilateral IP agreements and jurisprudence. With Article 3.2 of the WTO Dispute Settlement Understanding (DSU) in mind, these ambiguities shall be clarified "in accordance with customary rules of interpretation of public international law." It is established WTO jurisprudence that this provision calls for the application of Articles 31-32 VCLT, even though the VCLT is not treaty law for all WTO members. Article 31.1 VCLT requires that treaty provisions be interpreted "in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose". Thus, TRIPS objectives will have significant impact on the interpretation of ambiguous terms.⁴²⁹ This leaves room for their description in regional IP agreements and interpretations. Literature exists which has defined innovation to include local inventions and traditional knowledge in Africa.⁴³⁰

⁴²⁹ Henning G. Ruse-Khan, "Proportionality and Balancing within the Objectives for Intellectual Property Protection" in Paul Torremans, ed, *Intellectual Property and Human Rights* (Alphen aan de Rijn, The Netherlands: Kluwer Law International, 2008), at 170.

⁴³⁰ Jeremy de Beer, Izabela Sowa & Kristen Holman, "Frameworks for Analyzing African Innovation: Entrepreneurship, the Informal Economy and Intellectual Property", in Jeremy de Beer *et al* (eds), *Innovation and Intellectual Property: Collaborative Dynamics in Africa* (Cape Town: UCT, 2014) 32.

Key Findings

- IPRs may be adapted as instruments to support food security, as a public interest objective of IP regulations.
- Food security is protectable either as part of the overarching objectives of IP agreements; or by considering flexibilities and norms in non-IP agreements relevant to food security in Africa, such as the right to food, sustainable development, farmers' rights, and traditional knowledge to create exceptions and limitations to IPRs; or by considering how IP and relevant non-IP agreements interrelate under general international law in Articles 31.3, 41 and 30 VCLT.
- Both the social, as well as the economic and trade objectives, of IP regulations should be given equal weight in interpreting IP laws. Such balancing of interests requires contextual analysis of the impact of IP regulations and holistic consideration of relevant non-IP agreements such as the CBD and Nagoya Protocol, ITPGRFA, FAO-SDGs and Traditional Knowledge regulations.
- The objectives of various multilateral treaties may be integrated to support food security through adoption of general international laws on conflict of laws. International IP agreements do not operate in a vacuum. Based on the principle of interrelatedness of laws, due consideration must be given to subsequent agreements made within the meaning of Article 31.3(a) of the Vienna Convention on the Law of Treaties.
- Multilateral IP agreements, while providing generally for food security, do not give details on the mode by which it should be applied. Thus, they leave room for regulating the application of food security exceptions and interests at the regional and domestic levels.
- Food security requires differential application of IP protection that varies across countries and sectors (one size does not fit all).

- The public interest objectives and rights affected by IP regulations, including food security, may be integrated through a *sui generis regime*
- Instrumentalist and differential approaches to IP regulation are not contradictory to IP regimes
- Dynamic interpretation of IP norms is necessary to advance food security. For example, specific regulation is required to adopt and practically implement the paradigm shifts reflected in the WIPO development agenda and WTO Doha Declaration. Room exists for interpretation of terms not defined in multilateral IP agreements at regional levels.

Having highlighted the principles established under multilateral IP agreements that are necessary for harnessing IP regulations to advance food security, the next chapter critically examines the provisions of contemporary regional agreements relevant to IP and food security in West Africa to see whether and to what extent they embrace the above principles.

CHAPTER 3: Integrating Food Security in West Africa's IP related Regional and Continental Trade Agreements

3.1 Introduction

Chapter two demonstrates that multilateral IP laws are unsuitable for factoring in food security of West Africa due to the difficulty in applying the principles of differentiation and instrumentalism. This chapter considers whether current regional and continental laws relating to IP grant more room to consider the food security interests of West African states by greater provisions for differentiation and functionalism. Chapter three examines the appropriateness of regional intellectual property (IP) and trade regulations applicable to West Africa for advancing food security in the region based on two questions: firstly, how comprehensively do they incorporate current flexibilities in multilateral IP regulations that allow for food security provisions?; and secondly, to what extent do they go beyond current multilateral frameworks to grant special (*sui-generis*) provisions for attaining food security in West Africa?

The inquiry is explored in the following order: Firstly, the chapter reviews relevant literature, so as to understand the forms and characteristics of regional regulations, and how they can influence food security in West Africa. Secondly, section two reviews interdisciplinary studies that focus on agricultural production and trade in West Africa, so as to identify the issues that affect the relationship between IP and food security in the context of West Africa. Also, relevant literature is analyzed to identify the legal theories and principles that guide the relationship between regional and multilateral IP and trade agreements.

Thirdly, critical doctrinal analysis is made of the provisions of regional IP and trade agreements applicable to West Africa, in order to identify the space they have for differential

application of IP regulations in relation to food security. Analysis is made of the negotiating history, content, and food security implications of each regional agreement. Finally, the concluding section assesses the strengths and weaknesses of the current regional regulations applicable to West Africa, and the implications that they may have for food security in the region.

3.2 Relevance of Regional IP Regulation

West African countries have negotiated and signed a growing number of IP related trade agreements, at the continental and regional levels, rather than at the multilateral level through organizations like the WTO or WIPO. Examples of such agreements to which West African countries are signatories include: the African Intellectual Property Organization's (OAPI) 1999 Revised Bangui Agreement; the African Regional Intellectual Property Organization's (ARIPO) 2015 Arusha Protocol for the Protection of New Varieties of Plants and 2010 Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore; the African Union's 2013 Pan African Intellectual Property Organization (PAIPO) agreement, along with its 2015 African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Genetic Resources. Also, various free trade agreements such as the 2000 Cotonou Agreement; the 2000 African Growth and Opportunities Act; the 2014 Economic Partnership Agreement (EPA) between the European Union (EU) and the ECOWAS; and the 2018 African Continental Free Trade Agreement (AfCFTA) contain provisions related to intellectual property.

Regional trade agreements (RTAs) are expanding in number and in the range of subjects they cover.⁴³¹ Studies show that around 80 per cent of all intra-African trade flows through

⁴³¹ The World Bank, "Regional Trade Agreements", 5 April 2018. Online at: <<https://www.worldbank.org/en/topic/regional-integration/brief/regional-trade-agreements>>.

agreements made by regional economic communities (RECs), which dominate other trade arrangements.⁴³² ECOWAS is one of the five RECs in Africa responsible for 67 per cent of all intra-African traded volumes in 2015.⁴³³ The large number of RTAs engaged in by West African countries, creates additional layers of regulation relating to IP and trade. This raises the issue of how the multiple layers of law can be harmoniously coordinated, and how the differing objectives of the agreements can be reconciled.

Moreover, contemporary RTAs applicable to West Africa go beyond regulating tariffs, to cover multiple policy areas that affect food security and agricultural production, including competition policy, government procurement rules, and IPRs.⁴³⁴ This raises another issue of how to balance regional discretion with the requirement for coherence in the multilateral regime? The next section analyses these issues by examining the general nature and functions of RTAs.

3.2.1 Definition and Scope of Regional Regulations

Generally, the term regional trade agreements (RTAs) is used to designate agreements concluded between countries located in the same geographical region, or within an economic community, under which participants offer to each other more favorable treatment in trade matters than to other countries.⁴³⁵

⁴³² United Nations Conference on Trade and Development (UNCTAD), “From Regional Economic Communities to a Continental Free Trade Area: Strategic Tools to Assist Negotiators and Agricultural Policy Design in Africa”, (2018) UNCTAD/WEB/DITC/2017/1, at 9.

⁴³³ *Ibid.*

⁴³⁴ See United Nations Conference on Trade and Development (UNCTAD), *African Continental Free Trade Area: Developing and Strengthening Regional Value Chains in Agricultural Commodities and Processed Food Products* (New York and Geneva: UN, 2016), at 39-56.

⁴³⁵ Rafael Leal-Arcas, “Proliferation of Regional Trade Agreements: Complementing or Supplanting Multilateralism?” (2011) 11:2 *Chicago Journal of International Law*, Article 23, 596 at 600 [Leal-Arcas, Proliferation of Regional Trade Agreements].

This preferential treatment usually takes the form of the removal or reduction of tariffs on imports from regional partners, thereby creating a free trade area. RTAs are typically classified in a hierarchy that ranges from its most basic form, the free trade area, to customs union, to common markets, and ultimately to an economic union. A customs union goes beyond the removal of internal tariffs that occurs within a free trade area to specify common tariffs that all member states impose on imports from outside the region. Common markets are customs unions that also remove barriers to the flow of factors—capital and labor—within the region. While, economic unions are common markets that also adopt a common currency.⁴³⁶

In this chapter, the term ‘RTAs’ will be used to designate continental and regional law and policy agreements, applying to ECOWAS or groups of West African countries, that determine who can appropriate or access knowledge in the region, especially as it relates to patents and plant variety. This will include regional treaties, protocols, declarations and model laws; but exclude agreements negotiated at the international or bilateral levels.

3.2.2 Provisions for Regional IP Regulation under the WTO

The WTO allows member states to enter into preferential agreements under three basic rules: The first is Article XXIV of the General Agreement on Tariffs and Trade (GATT), which permits the establishment of customs unions and free-trade areas within the principles of GATT; the second is the so-called enabling clause agreed to by GATT members in 1979, which enables GATT/WTO members to derogate from most-favored-nation treatment in favor of developing countries by way of RTAs; and the third is Article V of the General Agreement on Trade in Services (GATS), which

⁴³⁶ *Ibid.*, at 600.

permits WTO members to conclude RTAs in the area of service trade in line with the general principles of the GATS.

RTAs that cannot be justified by any of the above provisions can be challenged through the multilateral dispute settlement procedure of the WTO, by member countries on behalf of companies whose IPRs are affected by such an arrangement. For the purpose of monitoring the development of RTAs among WTO members, all RTAs concluded by WTO members must be notified to the Secretariat of the WTO. These arrangements indicate that RTAs are considered as subsidiary to multilateral treaties under the WTO system.

This might also explain why the WTO does not differentiate between a bilateral and a regional trade agreement. Instead, all the additional trade agreements between WTO members are referred to as RTAs. In this chapter, the term RTAs will be used to designate the continental and sub-continental treaties signed by three or more West African countries, or by the regional economic community (ECOWAS), outside multilateral institutions such as the WTO and WIPO. This includes plurilateral and free trade agreements applicable to West African countries.⁴³⁷

3.2.3 Characteristics of Regional Agreements Tools for Differential Treatment

One definitive characteristic of RTAs is that they allow for greater preferential treatment of member than non-member countries, to achieve trade and non-trade objectives.⁴³⁸ This favoured treatment can take the form of reduction or elimination of tariffs between member states, the

⁴³⁷ A plurilateral agreement is a multi-national legal or trade agreement between countries. Free trade agreements, many of which are bilateral, are arrangements in which countries give each other preferential treatment in trade, such as eliminating tariffs and other barriers on goods. In economic jargon, it is an agreement between more than two countries, but not a great many, which would be multilateral agreement. See Richard Baldwin & Patrick Low, eds. *Multilateralizing Regionalism: Challenges for the Global Trading System* (Cambridge, UK: Cambridge University Press, 2009).

⁴³⁸ Thomas Cottier & Marina Foltea, "Constitutional Functions of the WTO and Regional Trade Agreements", in Lorand Bartels & Federico Ortino, eds, *Regional Trade Agreements and the WTO Legal System* (Oxford: Oxford University Press 2006) 43-74, at 44-45.

formation of free trade areas, customs unions, common markets, and economic unions. Also, while making reference to WTO regulations, many RTAs contain obligations that go beyond multilateral standards for IP regulation in WTO agreements (described as TRIPS-plus agreements) and deal with areas not yet included in the WTO agenda, such as investment and competition policies, as well as labor and environmental issues.⁴³⁹

Preferential treatment contrasts with the principle of non-discrimination required in multilateral IP regulations, as exemplified in the Most Favored Nation (MFN) and National Treatment (NT) provisions of the WTO TRIPS Agreement.⁴⁴⁰ The WTO principle of non-discrimination obliges WTO Members to unconditionally grant to each other any benefit, favor, privilege, or immunity affecting customs duties, charges, rules, and procedures that they give to products originating in or destined for any other Member country.⁴⁴¹

While some scholars view the differential treatment permitted in RTAs as an erosion of the WTO principle of nondiscrimination and harmful to the multilateral trading system,⁴⁴² others see RTAs as playing a vital role in advancing regional integration and the development objectives of TRIPS.⁴⁴³ Article XXIV of GATT 1947 states that the agreement shall not be construed to prevent advantages that are granted by states in order to facilitate movement between countries, customs unions, or free trade areas. The fact that the drafters of GATT 1947 deliberately incorporated Article XXIV into this instrument is evidence that bilateral trade agreements (BTAs), RTAs, customs unions (CUs), preferential trade agreements (PTAs), or any similar concepts are a necessary means for promoting free trade within the WTO system. Similarly, Article V of GATS,

⁴³⁹ Leal-Arcas, Proliferation of Regional Trade Agreements, *supra* note 448, at 600.

⁴⁴⁰ TRIPS, Arts 3-4.

⁴⁴¹ Leal-Arcas, Proliferation of Regional Trade Agreements, *supra* note 448, at 602-603.

⁴⁴² *Ibid*, at 599.

⁴⁴³ Maurice Schiff & Alan Winters, *Regional Integration and Development* (New York: Oxford University Press, 2003).

which provides preferences in relation to services, is additional evidence to suggest the important role of RTAs in the current trade order of the WTO.

This thesis adopts a functional approach to RTAs, which views the room for differentiation permitted in RTAs as an important instrument necessary for upholding multilateralism.⁴⁴⁴ Because one size does not fit all in IP regulation, it is important for IP regulations to be adjusted to suit the context, development challenges, and level of technology of different states. By granting room for differentiation, RTAs are complementary, not contradictory, to multilateral agreements. Differentiation offers the advantage of diversified and specialized legal rules that are tailored to be suitable for the context in which they are applied.⁴⁴⁵ There is no contradiction between differentiation and unification in international law because both legal processes are semi-autonomous and interacting features of the international legal system.

Advance Regional Integration: Regional integration describes “the process whereby political actors in several distinct national settings are persuaded to shift their loyalties, expectations and political activities toward a new [regional] center, whose institutions possess or demand jurisdiction over preexisting national states. The end result of a process of political integration is a new political community, superimposed over the pre-existing ones.”⁴⁴⁶

Integration has been defined both as a process, and as the end result of amalgamation between parties.⁴⁴⁷ Usually, regional integration goes beyond multilateral cooperation, as it

⁴⁴⁴ Sangeeta Khorana *et al*, *Bilateral Trade Agreements in the Era of Globalization: The EU and India in Search of a Partnership* (Portland, Oregon: Edward Elgar, 2010); Aggarwal, Vinod K. & Shujiro Urata, *Bilateral Trade Agreements in the Asia-Pacific: Origins, Evolution, and Implication* (New York and London: Routledge, 2006).

⁴⁴⁵ Isabelle Van Damme, “What Role is there for Regional International Law in the Interpretation of the WTO Agreements?” in Lorand Bartels and Federico Ortino, eds., *Regional Trade Agreements and the WTO Legal System* (Oxford: Oxford University Press 2006), at 561-562.

⁴⁴⁶ Ernst Haas, *The Uniting of Europe* (Stanford: Stanford University Press, 1968) at 16.

⁴⁴⁷ See Business Dictionary online: < <http://www.businessdictionary.com/definition/regional-integration.html>> .

requires countries to harmonize their national policies by adopting common political and economic structures, laws, procedures, and supranational institutions to reach the objectives of a regional agreement. Thus, integration often involves the giving up to a certain level of the sovereign power of states to achieve the overall goals of a region.

The majority of RTAs signed by West African countries or ECOWAS contain provisions requiring integration of regulations, institutions and policies by states.⁴⁴⁸ The ideal grouping for economic integration includes countries at comparable levels of development but with disparate, complementary resource bases. Such countries would have the maximum to gain from integration but little to worry about in terms of the distribution of benefits in favor of rich countries at the expense of poor countries within the grouping.⁴⁴⁹ However, intra-West African formal trade is uneven, dominated by the strongest economies of the region, such as Nigeria, Ivory Coast and Ghana. The weakest countries contribute minimally to intraregional official trade flows.⁴⁵⁰

Moreover, past attempts by West Africa to adopt regional integration schemes for development purposes have not been successful. For example, the common economic and monetary policies put in place for French speaking countries in West Africa by The Union Economique et Monétaire Ouest Africaine (UEMOA), also known in English as West African Economic and Monetary Union (WAEMU), have not lead to the promised economic growth in member states.⁴⁵¹

The more favorable assessment of regional integration arrangements involving developing countries is based on the theory that regionalism will lead to net trade creation as long as it is

⁴⁴⁸ For example, see Articles 2.1 & 2.2 of the Bangui Protocol.

⁴⁴⁹ FAO, “Regional Integration and Food Security in Developing Countries”, TCAS Working Document No.50, April 2003 at 25.

⁴⁵⁰ Piccolino, G. & Minou, S., “The EU and Regional Integration in West Africa: Effects on Conflict Resolution and Transformation” (2014) *University of Pretoria RegioConf Working Paper*, 5 at 7.

⁴⁵¹ *Ibid*, at 17-18.

coupled with a significant degree of trade liberalization and where emphasis is put on reducing cost-creating trade barriers which simply waste resources. However, critical examination of this theory indicates that the assumptions on which it is based may prove faulty.⁴⁵² Positive economic outcomes will depend on the deliberate design of these agreements and cannot simply be assumed.

A major criticism of West Africa's regional agreements has been that they mimic inappropriate European frameworks.⁴⁵³ As such, maintaining the room for flexibility in setting integration ambitions, including making allowance for variable speed and variable geometry formulations for countries economic groupings with overlapping memberships and different integration objectives, is important for designing RTAs suitable for West Africa.

The following section examines important factors that must be taken into consideration, through differential provisions in IP regulation, so as to make them more suitable for advancing food security in the West African region.

3.3 Important Considerations Affecting IP and Food Security in the West African Region

As discussed previously, agriculture is a major source of income and employment in West Africa and thus plays an important role in advancing food security in the region. The form of agricultural production for food crops dominant in the ECOWAS region is subsistence farming, based mainly on small-scale farms (of less than 10 hectares), producing a wide variety of crops.⁴⁵⁴

⁴⁵² Hannu Heinonen, *Regional integration and the state: the changing nature of sovereignty in Southern Africa and Europe*, (Helsinki: University of Helsinki, 2006), at 71-74.

⁴⁵³ Sanoussi Bilal, "External Influences on Regional Integration in West Africa: The Role of Third Parties", in Rike Sohn & Ama Konadu Oppong, eds., *Regional Trade and Monetary Integration in West Africa and Europe* (Bonn: Center for European Integration Studies, 2013) 33-56.

⁴⁵⁴ Roger Blein et al, "Agricultural Potential of West Africa (ECOWAS)", *Foundation pour l'agriculture et la ruralite dans le monde (FARM)*, February 2008, at 7-9.

In West Africa, farmers utilize crop systems which are based first and foremost on traditional knowledge and development of local varieties, along with traditional processes, rather than agricultural technology and mechanization.⁴⁵⁵ Relatively little use is made of IP protected seed varieties, fertilizers and agricultural machinery. Most farmers continue to save, re-use, and exchange their own seeds from the previous year's production. This is especially true in the case of food crops.⁴⁵⁶ Recent studies suggest that, due to its sustainability, traditional knowledge relating to Africa's local plants plays an important role in fostering food security and nutritional health in the region.⁴⁵⁷ Therefore, the protection of traditional knowledge, as well as the farmers' ability to use local processes, especially as relates to seeds, are important factors that must be upheld in designing IP laws and policies to advance agricultural production of food crops and food security in the ECOWAS region.

Much of the agricultural innovation taking place in West Africa is incremental and is facilitated through open access and communities.⁴⁵⁸ To facilitate food security, regional IP treaties must contemplate the fact that innovation in West Africa is occurring mostly in the informal sector and in the absence of strong IP institutions. IP regulations need to shift to embrace both the formal and informal home-grown technologies, as there is a symbiotic relationship between the two.⁴⁵⁹

⁴⁵⁵ *Ibid*, at 30.

⁴⁵⁶ Roger Blein et al, *supra* note 467, at 31-32.

⁴⁵⁷ See I.S. Asogwa, J.I. Okoye & K. Oni, "Promotion of Indigenous Food Preservation and Processing Knowledge and the Challenge of Food Security in Africa" (2017) 5:3 *Journal of Food Security*, at 75-87; Lorraine Cordeiro, "The Role of African Indigenous Plants in Promoting Food Security and Health", in H. Rodolfo Juliani, James E. Simon & Chi-Tang Ho, eds, *African Natural Plant Products Volume II: Discoveries and Challenges in Chemistry, Health and Nutrition* (American Chemical Society, 2013), at 273-287.

⁴⁵⁸ Olawale Adejuwon, Kehinde Taiwo & Mathew Ilori, "Promoting technology adoption in the small-scale oil palm fruit processing sector in south-western Nigeria: an innovation systems approach" (2014) 6:2 *African Journal of Science, Technology, Innovation and Development*, 75 at 76; Alexandra Mhula, Tim Hart & Peter Jacobs, "The dynamics of local innovations among formal and informal enterprises: Stories from rural South Africa" (2014) 6:3 *African Journal of Science, Technology, Innovation and Development*, 175 at 176.

⁴⁵⁹ See Paul Brenton & Carmine Soprano, "Smale-Scale Cross-Border Trade in Africa: Why it Matters and How it Should be Supported", *BRIDGES-Africa*, 5 June 2018; FAO, *Formalization of Informal Trade in Africa: Trends, Experiences and Socio-Economic Impacts* (Accra: FAO, 2017).

Agriculture in the region has comparatively little or none subsidization, compared to agriculture in developed countries, and is labor intensive. As a result, crops produced are less competitive in global markets.⁴⁶⁰ This makes West African countries vulnerable to dumping of products from more technologically advanced countries. In West Africa, global trade has brought fiercer competition to domestic agricultural products, from the cheaper genetically modified brands of agricultural produce; raising concerns that this trend will lead to reduced biodiversity, a greater reliance on imports, and increased food insecurity in the region.⁴⁶¹ A modern day example is that of Burkina Faso, where permission to grow genetically modified cotton was withdrawn in 2018, as the country's farmers claimed that allowing genetically modified seeds, their markets have been flooded with poor quality cotton that is unable to fetch a good income in the global market.⁴⁶²

Local agricultural production rates in West Africa remain very low, despite the introduction of a fifth tariff band setting customs duty at 35 percent for agri-food products in the Common External Tariff (CET). This low productivity has led to a high level of re-export trade. Re-export trade occurs when a country imports products in excess of its domestic needs, then takes advantage of policy disparity to export them to a neighboring market.⁴⁶³ An example is the republic of Benin, a country that annually imports an average of 900,000 metric tons of rice (beyond its domestic requirements which are estimated at 400,000 per annum) and then smuggles the excess 500,000 tons to Nigeria.⁴⁶⁴ Because such trade does not develop productive capacity within the region, and

⁴⁶⁰ Blein et al, *supra* note 467, at 48.

⁴⁶¹ Curtis, IPRs and Int. Trade: An overview, *supra* note 63, at 6-7.

⁴⁶² Krinninger, *supra* note 64.

⁴⁶³ Bio Goura Soule, "West African Cross-Border Trade: Trends and Opportunities", *Bridges Africa*, 5th June 2018, online: < <https://www.ictsd.org/bridges-news/bridges-africa/news/west-african-cross-border-trade-trends-and-opportunities>>.

⁴⁶⁴ *Ibid.*

is conducted using foreign forex (usually the American dollar), it is not a long term solution to food insecurity.

Another distinction is that a lot of agricultural trade between West African countries takes place informally. It is estimated that informal cross border trade represents 43 percent of official GDP, therefore being almost equivalent to the formal sector.⁴⁶⁵ For a regional IP and trade treaty to be effective in advancing food security in West Africa, it should not hinder informal trade between countries in a manner as to limit access to cheaper food. An illustrative case is the experience of Rwanda, an East African country, whose agricultural context is similar to those of West African countries. A 2013 USAID study noted that Rwanda's potential for increased livestock exports is seen to largely depend on developments in the Democratic Republic of Congo (DRC) market. As this market is almost fully characterized by informality, the study highlighted that increased emphasis on formal trade in Rwandan trade regulations may limit livestock exports to the DRC.⁴⁶⁶ Consequently, Rwanda has formulated a comprehensive strategy on cross-border trade outlining how the country could improve policies and programs to support cross-border trade, including informal trade.⁴⁶⁷ The strategy led to substantial growth in Rwandan exports to the DRC, and has been recognized as contributing to improving food security and incomes for low-income people and small traders in Rwanda.⁴⁶⁸

⁴⁶⁵ United Nations Conference on Trade and Development (UNCTAD), "From Regional Economic Communities to a Continental Free Trade Area: Strategic Tools to Assist Negotiators and Agricultural Policy Design in Africa", (2018) UNCTAD/WEB/DITC/2017/1, at 9.

⁴⁶⁶ USAID, *Rwanda Cross-Border Agricultural Trade Analysis*, United States Agency for International Development-Enabling Agricultural Trade (EAT) project, implemented by Fintrac Inc., February (2013).

⁴⁶⁷ Rwanda Ministry of Trade and Industry, *National Cross-border Trade Strategy 2012-17: A comprehensive strategy to support Rwanda's exports to neighboring countries*, (MINICOM 2012), October 2012.

http://www.minicom.gov.rw/fileadmin/minicom_publications/documents/cross_border_trade.pdf; Rwanda Ministry of Trade and Industry, *MINICOM Annual Report 2012/13*, Ministry of Trade and Industry, October 2013, online: <http://www.minicom.gov.rw/fileadmin/minicom_publications/Reports/MINICOM_Annual_Report_2012-13-2.pdf>.

⁴⁶⁸ Panos Konandreas, Ramesh Sharma & Alessandro Costantino, "Food Security in the East African Community: Impact of Regional Integration Under Customs Unions and Common Market Policies", *Final Report* for the European Commission Joint Research Centre (EC-JRC), Contract No.2014/346027, July 2015, at 83.

It is important to emphasize that facilitating informal trade and innovation does not necessarily require the adoption of customary forms of IP regulation. A good example is the Nollywood film industry in Nigeria, which has developed in the absence of formal IP regulation.⁴⁶⁹ In such contexts, this thesis proposes that government's best role should be the assemblage and adoption of IP rules that have been formed by private enterprises. Enhancing the role of private enterprises in IP regulation would support more sustainable invention, while avoiding the corruption challenges inherent in many government institutions in West Africa.

The private sector in West Africa is characterized by informal inventions, flexible procedures or non-regulation, small size enterprises, weak inter-firm linkages, low level export competitiveness and low technological capability. These characteristics are not catered for in customary IP agreements that tend to focus on protecting formal innovations and the removal of trade barriers, without the commensurate attention to the building of local productive capacities and private sector development.⁴⁷⁰ Consequently, for RTAs to support food security in West Africa, it is necessary that they contain differentiated policies, which do not inhibit the powers of small holder farmers to utilize traditional farming systems, and which support local biodiversity and informal trading systems.⁴⁷¹ Having examined the factors that affect the suitability of RTAs to advance food security in West Africa, the following section examines the theoretical basis for integrating food security interests in IP regulations.

⁴⁶⁹ Olufunmilayo Arewa, "Nollywood: Pirates and Nigerian Cinema", in Kate Darling & Aaron Perzanowski, eds., *Creativity Without Law: Challenging the Assumptions of Intellectual Property* (New York: New York University Press, 2017) 228, at 233.

⁴⁷⁰ UNCTAD, "Strengthening the Private Sector to Boost Continental Trade and Integration in Africa", *UNCTAD Policy Brief* No.33, May 2015, at 1.

⁴⁷¹ USAID, "West Africa: Land Use and Land Cover Dynamics-Agricultural Expansion across West Africa", 2015.

3.5 Theories and Principles Governing Regional IP Regulations

3.5.1 Functionalist Approach to Intellectual Property

In this study, a functional theory of IP law has been adopted, that assesses agreements on the basis of their effectiveness in fostering the conditions that will advance food security in the region. Functionalism is based on assessing the pragmatic question of which rules work best for different contexts.

The search for the proper law and the design of the applicable norm on functional grounds, appear, to some extent, to be possible regardless of whether we are within one system or between systems.⁴⁷² The foundation for applying agreements is not regime hierarchy, but rather countries as signatories utilize legal and policy instruments most effective for achieving the agreement's objectives. In other words, the weight given to an agreement's provisions is based on their relevance for achieving overall policy goals in the context of a region or country. The varying nature of treaty objectives raises the question of how potential conflicts between trade liberalization and the other social objectives mentioned in regional IP agreements could be addressed.

At the outset, it should be remembered that all objectives are of equal value and should therefore be pursued on a mutually reinforcing basis. Articles 7 & 8 TRIPS indicate that it is possible to reconcile both the social and economic objectives of IP protection without conflict. TRIPS and WTO provisions are sufficiently general to suggest some discretion (not absolute) for the regional IP institutions of West Africa to assess whether there is (a potential) conflict between those objectives and how to avoid it.

⁴⁷² Michaels & Pauwelyn, Conflict of Norms, *supra* note 428, at 362.

3.5.2 Differentiation as a Legal Tool for Harnessing Regional IP Regulations to Support Food Security

Differentiation is based on the idea that laws and policies cannot be assessed in a vacuum, but must be considered in the context to which they apply.⁴⁷³ The principle of differentiation states that the law should not be applied to parties that are dissimilar in the same manner, but must be interpreted and applied in a manner that recognises and accommodates such differences. This principle allows for more flexible interpretation of IP regulation, where, not just the ordinary meaning but the specific context in which the law is applied are taken into account implementing its provisions.⁴⁷⁴ This allows for IP regulation to be applied in different ways in order to achieve diverging goals.

The WTO TRIPS Agreement provides for differential application of IP regulation in sectors like public health and biodiversity, in developing countries and LDCs, and in implementation of the treaty.⁴⁷⁵ The goal of differentiation is to promote equity and substantive equality between developing and developed countries, so as to give effect to IPRs objectives, rather than mere formal application of the law.⁴⁷⁶

Under differentiation, IP norms can be adapted by developing countries to suit their contexts.⁴⁷⁷ Such differentiation will not amount to discrimination, for paras 44 and 50 of the Doha Declaration institutes the principle of special and differential treatment for developing and least developed countries as part of the WTO Agreements. Previous studies indicate that patents and

⁴⁷³ Gupta & Sanchez, *Elaborating the common but differentiated principle in the WTO*, *supra* note 164, at 425.

⁴⁷⁴ Wei Zhuang, *Intellectual Property Rights and Climate Change*, *supra* note 173, at 80.

⁴⁷⁵ TRIPS, Arts 27, 30, 66, 67.

⁴⁷⁶ Zhuang, *supra* note 173.

⁴⁷⁷ Rochelle Dreyfuss, "The role of India, China, Brazil and other emerging economies in establishing access norms for intellectual property and intellectual property lawmaking" (2009) *Institute for International Law and Justice (IIJL) Working Paper 2009/5* 30 July 2009.

PBRs only aid development when certain contextual conditions exist. Consequently, the optimal method for applying IP regulation to advance food security will vary based on the socio-economic development levels of each country.⁴⁷⁸ In order to integrate different interests, an IP system must provide countries with flexibility as to how they meet their patent obligations.

Differentiation necessitates consideration of general international law covering human rights, sustainable development, and plants in interpreting IP provisions. The need for a holistic interpretation was emphasised by the report of the UN Special Rapporteur on the right to food, where he proposes agroecology as a solution to global food security challenges.⁴⁷⁹ Considering the unique nature of the factors necessary for food security in West African countries, it is important to maximise the principle to allow for differential application of IPRs for food security purposes. The following section examines how regional IP related agreements applicable to the West African region, may be integrated with the provisions in multilateral IP treaties.

3.5.3 The Relationship between Multilateral and Regional IP and Trade Agreements

Article XXIV GATT allows countries to adopt measures for advancing economic integration through the elimination of barriers to trade within a region, provided that it does not raise barriers to trade for third countries. Article XXIV GATT requires that duties be eliminated on "substantially all the trade" between the parties of a customs union or free trade area, or at least with respect to substantially all the trade in products originating in such territories. An exception is made for developing countries. Regarding the relationship between Article XXIV GATT and other WTO provisions, Article XXIV should be considered as a derogation from all the provisions

⁴⁷⁸ Taubman, *supra* note 185.

⁴⁷⁹ Schutter Report 2010, *supra* note 12.

of the WTO and not just from the MFN principle contained in GATT Article I.⁴⁸⁰ This broad applicability was established by the WTO Appellate Body in *Turkey-Textiles* when it stated that: “Article XXIV may justify a measure which is inconsistent with certain other GATT provisions”.⁴⁸¹ That reversed the Panel finding that Article XXIV did not authorize a departure from GATT/WTO obligations other than Article I of the GATT.⁴⁸² The Appellate Body upheld the Panel's conclusion that "Article XXIV does not allow Turkey to adopt, upon the formation of a customs union with the European Communities, quantitative restrictions ... which were found inconsistent with Articles XI and XIII of the GATT 1994 and Article 2.4 of the ATC."⁴⁸³ The Appellate Body recalled that Article 2.4 of the Agreement on Textiles and Clothing refers to the "relevant GATT 1994 provisions" as an exception to the prohibition of new restrictions to trade and that, therefore, "Article XXIV of GATT 1994 is incorporated in the ATC and may be invoked as a defence to a claim of inconsistency of Article 2.4 of the ATC, provided that the conditions set forth in Article XXIV for the availability of this defence are met."⁴⁸⁴

Paragraph 2(c) of the Enabling Clause states that developing countries may establish regional or global preferential arrangements for the mutual reduction or elimination of tariffs, which must be in accordance with criteria and conditions that may be prescribed by WTO Members. This requirement seems to subject tariff regulations among signatories of RTAs to the approval of the multilateral arrangement in the WTO. However, before the Enabling Clause can be successfully invoked, certain conditions must be fulfilled. The deviation from the MFN obligation of GATT

⁴⁸⁰ Leal-Arcas, Proliferation of Regional Trade Agreements, *supra* note 448, at 604-605.

⁴⁸¹ Appellate Body Report, Turkey – Textiles, WT/DS34/AB/R, para. 58.

⁴⁸² Panel Report, *Turkey-Textiles*, WT/DS34/R, paras. 9.186-9.188.

⁴⁸³ Appellate Body Report, Turkey – Textiles, para. 64.

⁴⁸⁴ Appellate Body Report, Turkey – Textiles, footnote 13 to para. 45.

Article I paragraph 1 is allowed only when, and to the extent that, the conditions set out in paragraphs 3 and 4 of the Enabling Clause are met.

Paragraph 3 of the Enabling Clause spells out two substantive requirements applicable to RTAs. Firstly, RTAs "shall be designed to facilitate and promote the trade of developing countries and not to raise barriers to or create undue difficulties" for the trade of any other WTO Member. Secondly, RTAs "shall not constitute an impediment to the reduction or elimination of tariffs and other restrictions to trade on a most-favored-nation basis." These two requirements are more flexible than those in Article XXIV GATT, given that, for example, regarding trade liberalization among the parties, they permit the exchange of preferences on a subset of products as well as the partial reduction, rather than the elimination, of trade barriers.

Paragraph 4 of the Enabling Clause requires that member states notify the WTO of new RTAs and of any subsequent modifications. The Enabling Clause divides RTAs into four categories: (1) the Generalized System of Preferences; (2) the special and differential treatment with respect to non-tariff measures, (3) regional arrangements between developing countries, and (4) special treatment for least-developed countries.⁴⁸⁵

The above provisions indicate that multilateral and regional agreements are not mutually exclusive or contradictory, for a measure of discretion is given for states to formulate IP frameworks at the regional level. However, this discretion is not absolute. For where a RTA is built on and refers to multilateral IP regimes like the WTO, the RTA should not derogate from, or compromise the social, as well as the economic, objectives contained in Articles 7 & 8 of the

⁴⁸⁵ Leal-Arcas, Proliferation of Regional Trade Agreements, *supra* note 448, at 607.

WTO-TRIPS agreement.⁴⁸⁶ The next section looks at how much scope is provided for differentiation in West Africa's regional IP and trade regulations.

3.6 Provisions Affecting Food Security in Continental and Regional Agreements Applicable to West Africa

(A) IP Based Treaties

3.6.1 The African Regional Intellectual Property Organisation's (ARIPO) Arusha Protocol

Established in 1976 on the basis of the Lusaka Agreement,⁴⁸⁷ the African Regional Intellectual Property Organization (ARIPO) is a union of 19 mostly English-speaking countries of Africa, four of which are ECOWAS member states.⁴⁸⁸ The organization was established with the objective of promoting the harmonization and development of the industrial property laws, and matters related thereto, appropriate for member states and for the region as a whole.⁴⁸⁹

Background: ARIPO resulted from a concerted response by both the United Nations Economic Commission for Africa (UNECA) and the World Intellectual Property Organization (WIPO) to the

⁴⁸⁶ Henning G. Ruse-Khan, "The International Law Relation Between TRIPS and Subsequent TRIPS-Plus Free Trade Agreements: Towards Safeguarding TRIPS Flexibilities?" (2011) 18:2 *Journal of Intellectual Property Law*, 325 at 329-330 [Ruse-Khan, Towards Safeguarding TRIPS Flexibilities].

⁴⁸⁷ *Agreement on the Creation of the African Regional Intellectual Property Organization*, Lusaka, 9 December 1976. [Lusaka Agreement].

⁴⁸⁸ The draft PVP Protocol is to be implemented in the 19 ARIPO member states, (ECOWAS countries are highlighted) namely: Botswana, **Gambia, Ghana**, Kenya, Lesotho, Malawi, Mozambique, Namibia, **Sierra Leone, Liberia**, Rwanda, São Tomé and Príncipe, Somalia, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

⁴⁸⁹ Lusaka Agreement, Article III (a).

desire for an industrial property organization for English-speaking African countries to have a dedicated industrial property coordination organization akin to OAPI.⁴⁹⁰ Across the developed world modern genetically modified (GM) and hybrid seeds are protected by strict intellectual property regimes, notably by an intellectual property regime known as UPOV 1991. The seed companies, along with the US State Department and the UK Department of International Development have all applied significant pressure on African governments to adopt UPOV 91.

As a result, in November 2009, ARIPO's Council of Ministers approved a proposal for ARIPO to develop a policy and legal framework, the ARIPO Protocol on the Protection of New Varieties of Plants (PVP Protocol), which would push for the adoption of the UPOV 91 standards in Africa through government regulatory processes.⁴⁹¹ Initially adopted in November 2013, the PVP Protocol was revised;⁴⁹² resulting in the adoption of the ARIPO Protocol for the Protection of New Varieties of Plants by the Arusha (Tanzania) Diplomatic Conference of July 6, 2015 (Arusha Protocol).⁴⁹³

While industrial associations like The International Community of Breeders of Asexually Reproduced Ornamental and Fruit Varieties (CIOPORA), African Seed Trade Association (AFSTA), the French National Seed and Seedling Association (GNIS) and foreign entities such as the United States Patent and Trademark Office, the UPOV Secretariat, the European Community Plant Variety Office were extensively consulted and participated in the process of drafting the ARIPO PVP Protocol, local farming associations did not participate in drawing up the Protocol.

⁴⁹⁰ Oguamanam, *Breeding Apples for Oranges*, *supra* note 122, at 174.

⁴⁹¹ Online at: < <https://ekogaia.wordpress.com/tag/aripo/> > .

⁴⁹² See ARIPO, *Consideration of the Revised ARIPO Legal Framework for Plant Variety Protection*, Council of Ministers, 14th Session 28-29 November 2013, Kampala, Uganda, ARIPO/CM/XIV/8, 8th November 2013 [ARIPO PVP Protocol].

⁴⁹³ ARIPO, *Arusha Protocol for the Protection of New Varieties of Plants within the Framework of the African Regional Intellectual Property Organization*, adopted by Diplomatic Conference of ARIPO at Arusha, Tanzania, on 6th July 2015 [Arusha Protocol].

⁴⁹⁴ In the grand scheme of things, Arusha is a result of concerted pressure by the UPOV and WIPO, along with the EU to interpret the sui generis provision of Article 27 TRIPS with respect to PBRs as correlating to UPOV 1991. This is evidenced in the Protocol's provisions.

Content: The Protocol seeks to provide Member States with a regional plant variety protection system that recognizes the need to provide growers and farmers with improved varieties of plants in order to ensure sustainable agricultural production. The Arusha Protocol establishes unified procedures and obligations for the protection of plant breeder's rights in all ARIPO member states. These rights will be granted by a single authority established by ARIPO to administer the whole system on behalf of its member states.⁴⁹⁵

Being based on and conformed to the rules contained in the 1991 Act of the UPOV Convention,⁴⁹⁶ the Arusha Protocol establishes legal protection of new plant varieties for 20-25 years, depending on the crop. Farmers will not be able to save and re-use seed from these varieties on their own farms except for specifically designated crops, within reasonable limits, and upon annual payment of royalties. Under no circumstances will they be able to exchange or sell seeds harvested from such varieties. Because Article 22.2 of the Protocol subjects farmers' rights to breeder's rights, the provision limits the Protocol's utility for advancing food security in West African agriculture where the rights of the farmers and breeders are not separated, but merged.

⁴⁹⁴ GRAIN, "Land and seed laws under attack: Who is pushing changes in Africa?", 21 January 2015. Online at: <<https://www.grain.org/es/article/entries/5121-land-andseed-laws-under-attack-who-is-pushingchanges-in-africa?print=true>>.

⁴⁹⁵ ARIPO News, online: <<http://www.aripo.org/news-events-publications/news/item/117-draft-aripo-regulations-for-the-implementation-of-the-arusha-protocol-go-under-review>>.

⁴⁹⁶ Article 41, UPOV Doc, "Examination of the Conformity of the Draft ARIPO Protocol for the Protection of New Varieties of Plants with the 1991 Act of the UPOV Convention", UPOV Council 31st Extraordinary Session, Geneva, 11th April 2014, C(Extr.)/31/2, 14 March 2014.

Implications for Food Security in West Africa: To understand the implications that the Arusha Protocol has for food security in West Africa, it is important to take a look at the form of farming of food crops that dominate the continent. Agricultural production in the ECOWAS region is mainly based on small holder subsistence farms (of less than 10 hectares), producing a wide variety of crops.⁴⁹⁷ Smallholder farmers have developed crop systems which are based first and foremost on traditional knowledge and development of local varieties, rather than agricultural technology.⁴⁹⁸ Relatively little use is made of IP protected seed varieties, fertilizers and agricultural machinery. Also, more than 90% of seeds used by smallholder farmers are sourced from among themselves through traditional and informal seed exchange and sharing practices.⁴⁹⁹ This is especially true in the case of food crops.⁵⁰⁰ Studies on indigenous plants suggest that, due to its sustainability, traditional knowledge relating to Africa's local plants plays an important role in fostering food security and nutritional health in the region.⁵⁰¹ A lot of the trade in agriculture is carried out informally.

This contrasts with the systems adopted in formal IP regulations such as TRIPS and the UPOV, which advance proprietary control of agricultural innovation through breeding and other IP protected agrobiotechnology methods. The latter regimes restrain the rights of farmers to freely exchange and use farm-saved, in favor of the rights of breeders; advances the research and protection of monocultures, over biodiversity obtainable in local plants; and provides more support to multinational corporations.⁵⁰²

⁴⁹⁷ Roger Blein et al, *supra* note 467, at 7-9.

⁴⁹⁸ *Ibid*, at 7-9, and 30.

⁴⁹⁹ Craig Borowiak, "Farmers' Rights: Intellectual Property Regimes and the Struggles over Seeds", (2004) 32:4 *Politics and Society*, 511-543 [Borowiak, Farmers' Rights].

⁵⁰⁰ Roger Blein et al, *supra* note 467, at 31-32.

⁵⁰¹ See Asogwa., Okoye & Oni, *supra* note 470, at 75-87; Cordeiro, *supra* note 470, at 273-287.

⁵⁰² Oguamanam, Breeding Apples for Oranges, *supra* note 122, at 167.

Civil society organisations have campaigned against plant breeders’ regulations contained in the Protocol, arguing that the proposed protection framework is unsuitable for African countries as it may affect traditional rights for farmers to save, exchange or sell farm-saved seeds and infringe on the right to food.⁵⁰³ These concerns are not limited to the substantive contents of the Arusha Protocol, but extend to the procedural regulations. As pointed out by Bridget Mugambe, policy advocate for Alliance for Food Sovereignty in Africa, a “major concern about the ARIPO regulations is that they attempt to give more powers to the ARIPO office and undermine national sovereignty”.⁵⁰⁴

For example, the regulations compel national authorities to accept the decision of the regional ARIPO office to grant PBRs. This limits the ability of countries to utilize the provision in the Arusha Protocol that gives national authorities the right to object to any plant breeders’ rights as granted by ARIPO. As it seems that countries cannot reject PBRs granted by ARIPO, or protest to alternative regimes like the WTO, or International Court of Justice (ICJ), but can only call for revision of the terms. It also limits the ability of countries to adopt *sui generis* regimes for the protection of plant varieties as permitted under Article 27.3(b) of TRIPS, as no alternative form of IP protection to PBRs is provided for. The regulations also further risk infringing on farmers’ rights by putting in place provisions requiring farmers, seed processors and certification agencies to provide information and monitor the use of farm saved seed by farmers. This adds an additional layer of regulation for farmers, which seems to support the monopolistic control over seeds by breeders, more than traditional agricultural processes used in West Africa small scale farming, such as the free exchange and replanting of farm grown seeds.

⁵⁰³ AFSA document.

⁵⁰⁴ Hillary Muheebwa, “ARIPO Reviews of Draft Regulations on Implementation of Arusha Protocol on Plant Varieties”, *IP Watch*, 24th June 2016.

3.6.2 The African Intellectual Property (OAPI) Revised Bangui Agreement

Background: Established in 1977, on the basis of the Bangui Agreement,⁵⁰⁵ the African Intellectual Property organization (OAPI)⁵⁰⁶ is a regional IP organisation made up of 17 mainly Francophone African countries, eight of which are ECOWAS member states.⁵⁰⁷ OAPI is aimed at protecting IPRs in the region. In 1999, following pressure from the UPOV and WIPO insisting on the importance of adopting legislation protecting plant varieties in Africa to advance food security,⁵⁰⁸ the OAPI adopted the Revised Bangui Agreement,⁵⁰⁹ which contains standards for plant variety protection similar to those of the UPOV.

The negotiating process leading to the Revised Bangui Agreement was non-participatory. Signed in February 1999 by 15 French-speaking African countries,⁵¹⁰ the revised agreement established an IPR system for seeds and plant varieties. The agreement was prepared between 1995 and 1999 without consulting the peasants and local communities or even the general populations of the OAPI member countries.⁵¹¹ Fourteen of the OAPI countries, being LDC's were not required to adopt plant variety protection until 2006.

Suggestions made in 1999 by the WTO's African Group in relation to the revision went unheeded. Especially important in that regard was the African Group's 1999 comment titled:

⁵⁰⁵ OAPI, *Agreement Relating to the Creation of an African Intellectual Property Organization, Constituting a Revision of the Agreement Relating to the Creation of an African and Malagasy Office of Industrial Property*, (Bangui, Central African Republic, March 2, 1977), OA002, [Bangui Agreement].

⁵⁰⁶ This is the English translation for the French name 'Organisation Africaine pour la Propriété Intellectuelle (OAPI)'.

⁵⁰⁷ Namely, Benin, Ivory Coast, Guinea, Guinea Bissau, Mali, Niger, Senegal and Togo.

⁵⁰⁸ Jeanne Zoundjihhekon, "The Revised Bangui Agreement and Plant Variety Protection in OAPI Countries", in Christophe Bellmann, Graham Dutfield & Ricardo Melendez-Ortiz, eds., *Trading in Knowledge: Development Perspectives on TRIPS, Trade and Sustainability* (New York: Earthscan Publications, 2003) 109, at 110-111.

⁵⁰⁹ OAPI, *Agreement Revising the Bangui Agreement of March 2, 1977, on the Creation of an African Intellectual Property Organization* (Bangui, Central African Republic, February 24, 1999). [Revised Bangui Agreement].

⁵¹⁰ At the time, Equatorial Guinea was not yet a member.

⁵¹¹ Zoundjihhekon, *The Revised Bangui Agreement and Plant Variety Protection in OAPI Countries*, *supra* note 508, at 112.

“Deadline for the implementation of the provisions of Article 27.3(b)...” After recalling that issues concerning that article were being debated in related forums, such as the FAO and CBD, the proposal advised that:

the members of the African group consider it would be appropriate to postpone the implementation deadline until Article 27.3 (b) has been examined in detail. The time allowed for the implementation of the provisions should be the same as that provided for paragraphs 1 and 2 of Article 65, namely five years starting from the date when the examination will be completed. This delay is to allow the developing countries to set up the infrastructure required by implementation.⁵¹²

Content: Annex X of the Revised Bangui Agreement focuses on plant variety protection. Similar to the ARIPO Arusha Protocol, it confers on breeders an exclusive right to “exploit” new plant varieties for 25 years. Like all UPOV-modelled laws, the Bangui Agreement makes it illegal for farmers to share, exchange and selling farm-saved seeds of protected varieties outside their own farms.

In conformity with the UPOV, the Revised Bangui Agreement grants exclusive commercial rights (monopolies) to breeders of plant varieties that are new, distinct, uniform and stable. Although constituting the very basis of new varieties, traditional varieties and possible hybrids are ignored. This means that farmers will have to pay royalties on new seeds and will be entitled to keep part of their crop for future sowing only subject to certain conditions. Thus, the new agreement restricts the rights of farmers to stock seed and introduces a system whereby life forms are privatized.⁵¹³

While the Revised Bangui Agreement protects new or improved plant varieties, it offers no protection for traditional varieties developed by local communities because of the fact that

⁵¹² *Ibid*, at 112.

⁵¹³ Zoundjihhekon, *supra* note 521, at 113

traditional knowledge is not new, and because the holders of such knowledge are neither individuals nor commercial entities. Yet it is the traditional varieties that provide the basis for improving varieties, whether by conventional or biotechnological means. So, the rights of local communities are not protected by this supranational agreement. The OAPI, in conjunction with UPOV and WIPO, protects the interests of breeders and multinationals, but not those of peasants, traditional healers or local communities.⁵¹⁴

The OAPI adopts stricter conditions for the grant of exceptions to IPRs based on public interest reasons, than under the multilateral WTO-TRIPS agreement. For example, Annex X of the revised Agreement provides TRIPS-plus protections for new plant varieties in provisions consistent with the 1991 Convention of the Union for the Protection of Plant Varieties (UPOV) and commits OAPI countries to joining the latter agreement.⁵¹⁵ By adopting the UPOV 1991 approach to fulfilling their commitments under Article 27.3(b) of the TRIPS Agreement, the OAPI members legally constrain the freedoms of their farmers to plant, sell, and exchange seed.⁵¹⁶ OAPI countries could have advanced an alternative *sui generis* system for plant variety protection which defines the working of patents as meaning that patented products should be built locally, using domestic labor, which is a valuable tool in increasing local capacity and skills relevant to advancing food security and development in Africa.

The revised Bangui Agreement provides protection for second-use patents, which is not required by TRIPS. These protections can serve to extend the length of patent protection and slow the marketing of generic versions of products. In addition, the patent provisions of the revised Bangui Agreement do not provide for any exceptions for experimental or research purposes.

⁵¹⁴ *Ibid.*

⁵¹⁵ Revised Bangui Agreement, Article 30.

⁵¹⁶ Caroline Deere, *The Implementation Game*, supra note 95, at 259.

Finally, by extending the new twenty-year protection to patents claimed under the prior regime, the revised agreement also deprives member states of the possibility to exploit patents that would otherwise have fallen into the public domain after ten years.⁵¹⁷

Implications for West African Food Security: The application of the Bangui Agreement will have serious consequences for present and future generations in the OAPI member countries. One of these is that farmers will become completely dependent on multinationals and foreign scientific research institutes. This is because peasants and local communities are forbidden to reproduce IPR-protected seeds without a license. This could have grievous consequences for food security in Africa.

Another consequence will be the loss of crop diversity, which will leave both producers and consumers extremely vulnerable. This is because the Revised Bangui Agreement protects only uniform varieties. Another issue of concern is the plunder of African biological resources. Under Annex X of the Revised Bangui Agreement, breeders may use protected varieties to develop new varieties, but they may not work these new varieties if they are similar to the initial varieties. Farmers are allowed to stock, use and exchange (though not to sell) the seeds they have gathered of protected varieties subject to the conditions that: (i) they own their own land; (ii) no fruit varieties are involved; (iii) no forestry varieties are involved; (iv) no ornamental plants are involved; and (v) they have paid royalties on the initial variety.⁵¹⁸

Since West African countries has yet to legislate regional measures to ensure ‘the fair and equitable sharing of the benefits arising from the utilization of biological resources’; the Bangui provisions would open the doors for increased biopiracy and bioprospecting of the biological

⁵¹⁷ Revised Bangui Agreement, Art 6.

⁵¹⁸ Zoundjihhekon, *supra* note 521, at 113.

resources and in the region by multinationals and foreign research institutes.⁵¹⁹ A key feature of the OAPI regime is that it is one centralized standard and uniform regime that, unlike the ARIPO framework, does not give flexibility to member states at the national level. This lack of room to provide necessary differentiation will have negative implications for food security in West African countries.

3.6.3 The Pan African Intellectual Property Organization (PAIPO)

In January 2013, in its twentieth ordinary session, the African Union (AU) commenced the process of establishing The Pan African Intellectual Property Organization (PAIPO).⁵²⁰ According to the Preamble and Article 4 of the draft PAIPO Statute, the new institution will be a specialized agency of the African Union, aimed at developing harmonized IP standards that reflect the needs of the African Union and its Member States.⁵²¹ The PAIPO Statute was endorsed by the AU's Assembly of Heads of State and Governments in January 2016, at Addis Ababa. On 29 January 2018, Comoros signed the PAIPO Statute becoming the third signatory after Ghana and Sierra Leone who signed in 2017 and 2016, respectively. It remains to be seen if any other signatures will follow and whether the requisite number of ratifications (15) to bring the statute into force will follow.

Background: Like other regional IP agreements applicable to West Africa previously examined in this chapter, PAIPO was negotiated by a process which lacked transparency and inclusiveness.⁵²² For example, in March 2010 when the Ministerial Council created an IP Expert

⁵¹⁹ *Ibid.*

⁵²⁰ African Union, *Statute of the Pan African Intellectual Property Organisation*, Extraordinary Session of the African Ministerial Conference on Science and Technology (AMCOST), 15–18 April, 2014, Brazzaville, The Republic of Congo, Doc No AU/MIN/CONF V/ST/2 (II) EN, EX-CI/839/Annex 3, Art 2 [PAIPO Statute].

⁵²¹ PAIPO Statute, Art 2.

⁵²² Sadulla Karjiker, "PAIPO-Unnecessary and Unwanted" *Without Prejudice*, December 2012, at 64-65. Online at: < <http://blogs.sun.ac.za/iplaw/files/2016/04/PAIPO-unnecessary-and-unwanted.pdf> > .

Panel to evaluate the PAIPO documents prior to their submission, the consultations and the work of the IP Expert Panel were not disclosed to the public. Initially, ARIPO and OAPI were opposed to PAIPO because the AU did not consult them during its creation. This is especially problematic, because PAIPO's mandate includes maintaining close and continuous working relationships with these organizations.

PAIPO aims at: “developing African Common positions relating to intellectual property matters, particular regard being given to genetic resources, traditional knowledge, geographic indications, expressions of folklore, matters pertaining and arising from the CBD and emerging topics in the field of intellectual property”⁵²³; and to “to encourage the creation of a knowledge-based economy, innovative society as well as emphasizing the importance of creative and cultural industries.”⁵²⁴ PAIPO is not a trade agreement. Rather, it is an institutional body proposed by the African Union (AU), which would coordinate and likely supersede the functions of the linguistically diverged ARIPO and OAPI organizations. PAIPO would bring together African countries that are not yet members of either ARIPO or OAPI, under a single IP agreement.

Advocates of PAIPO claim that a continental IP organization will facilitate discussion between the two predominant regional bodies for the purpose of greater efficacy. Yet, it is difficult to imagine an efficient administrative system emerging through three separate bureaucracies, no matter how well coordinated they are. Critics of PAIPO argue that Africa's limited resources would be better allocated to strengthening the capacity and broadening the reach of existing regional IP organizations, rather than building a new one.⁵²⁵

⁵²³ PAIPO, Article 4(n).

⁵²⁴ PAIPO, Article 4(p).

⁵²⁵ Caroline Ncube & Laltaika Eliamani, “A New Intellectual Property Organization for Africa?” (2013) 8:2 *Journal of Intellectual Property Law & Practice*, 114.

Content: The most relevant provision of PAIPO in relation to food security is Article 22, which contains provisions concerning the compulsory exceptions to the breeder’s right corresponding to the provisions of Article 15(1) of the 1991 UPOV Act. Article 22(2) and (3) of the Draft Protocol contains provisions concerning the optional exception under Article 15(2) and (3) of the UPOV which states that:

Notwithstanding Article 21, for the list of agricultural crops and vegetables with a historical common practice of saving seed in the Contracting States specified by the Administrative Council of Plant Variety Protection which shall not include fruits, ornamentals, other vegetables or forest trees, the breeder’s right shall not extend to a farmer who, within reasonable limits and *subject to the safeguarding of the legitimate interests of the holder of the breeder’s right*, uses for propagating purposes, on the farmer’s own holdings, the product of the harvest which the farmer has obtained by planting on the farmer’s own holdings, the protected variety or a variety covered by Article 21(3) (a) or (b). (3) The conditions for the implementation of the provisions under paragraph (2), such as the different level of remuneration to be paid by small scale commercial farmers and large scale commercial farmers and the information to be provided by the farmer to the breeder, shall be stipulated in the regulations.⁵²⁶

Academic analysts and civil society groups have expressed concern about the language used in the draft statute constituting PAIPO.⁵²⁷ The subjection of the right of farmers to replant harvested produce to the breeder’s right is of special concern, as it could limit the freedom of farmers in West Africa to freely plant and exchange seeds. The preamble refers to socioeconomic development and effective IP systems, but does not substantiate these goals through legal obligations, such that it fails to affirm Africa’s common causes and perspectives on IP and

⁵²⁶ PAIPO, Article 22.

⁵²⁷ Jeremy de Beer, “Applying Best Practice Principles to International Intellectual Property Lawmaking” (2013) 44:8 *International Review of Intellectual Property and Competition Law*, 884 at 895; Sadulla Karjiker, “Sizing up the ‘Ill-Conceived’ PAIPO draft statute”, *Intellectual Property Watch*, 6th November 2012; Kawooya D, “A new course for The Pan African Intellectual Property Organization is urgently needed” (2012) *Change.org Petition*, online: <<http://www.change.org/petitions/a-new-course-for-the-pan-african-intellectual-property-organization-is-urgently-needed>>.

development, encompassed in the WIPO's African Group and Development Agenda Group (DAG) positions.⁵²⁸ The statute also fails to assert the importance of public interest flexibilities and the preservation of policy space for AU Member States.⁵²⁹ The drafters employed terms like “public health,” “IP system,” and “harmonization” without explanation, which limits the utility and accountability of the document in ensuring that the continental harmonization of IP is conducted in a manner that benefits African people.

Implications for Food Security in West Africa: The PAIPO statute,⁵³⁰ reads mostly like a set of aspirations, with little substantive content relating to IP, legal rights and obligations. While acknowledging that as a draft statute PAIPO should not spell out all details of the substantive issues the organization would work on, yet there is a missed opportunity to identify the specific challenges facing Africa in the realm of IP (such as, improving access to seeds, agricultural biotechnology, and reaching the SDGs).

Questions must also be asked about the suitability of PAIPO to administer pro-development IP regulations. This is because PAIPO was initially motivated by a multi-forum movement to integrate and unify Africa's IP system in accordance with the higher standards of IP protection adopted by the Southern African Development Community's (SADC) 2008 Protocol on Science, Technology and Innovation; the Common Markets for Eastern and Central Africa (COMESA), and the Southern and Eastern Africa Copyright Network (“SEACONET”).

⁵²⁸ See the “African proposal for the establishment of a development agenda for WIPO”, WIPO Doc IIM/3/2 Rev, 31 July 2005; and para 1 of the African Group and Development Agenda Group's (DAG) Guiding Principles, WIPO Doc CDIP/5/9 Rev, 26 April 2010.

⁵²⁹ Ncube & Eliamani, *supra* note 538, at 116.

⁵³⁰ AU-STRC, *Statute of the Pan-African Intellectual Property Organisation*, adopted by the 26th ordinary session of the Assembly, Addis Ababa, Ethiopia, 31st January 2016, online: <<http://austrc.org/docs/paipo/PAIPO%20Statute-E.pdf>> .

While bridging Africa’s linguistic and colonial divides and increasing regional integration are laudable goals, the policy impacts of IP go far beyond the realm of science and technology. This thesis proposes that a branch of the African Union with a more direct focus on development, such as the body administering the African Union’s African Model Law, is more appropriate to administer regional IP regulations for Africa than the AU Ministerial Council on Science and Technology.

3.6.4 The Swakopmund Protocol

Background: Adopted by the Diplomatic Conference of ARIPO at Swakopmund, Namibia, on August 9, 2010 and amended on December 6, 2016, *The Swakopmund Protocol for the Protection of Traditional Knowledge and Expressions of Folklore*⁵³¹ is an agreement of the African Regional Intellectual Property Organization (ARIPO) which provides for the protection of traditional knowledge (TK) and folklore in member states. The Protocol affirms the principle that traditional or local communities are the custodians of their TK, its associated genetic resources (GRs), as well as folklore, and empowers them to exercise rights over their TK and folklore and to benefit from its development.⁵³² The Swakopmund Protocol clearly distinguishes traditional knowledge from expressions of folklore. The Protocol’s provisions, especially those relating to folklore, were inspired by WIPO rules.⁵³³ It gives prominence to the customary laws of African countries.⁵³⁴

⁵³¹ *Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore*, ARIPO, 9 August 2010 (entered into force 11 May 2015) [Swakopmund Protocol].

⁵³² “Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore”, *The Archival Platform*, 19th January 2011.

⁵³³ See WIPO/GRTKF/IC/9/4, WIPO/GRTKF/IC/17/4 (2010); and WIPO/GRTKF/IC/18/4 (published February 2011), which compares the Swakopmund Protocol to the versions of the WIPO document discussed and adopted before the adoption of the text of ARIPO.

⁵³⁴ Laurier Ngombe, “The Protection of Folklore in the Swakopmund Protocol Adopted by the ARIPO (African Regional Intellectual Property Organization) (2011) 14:5 *The Journal of World Intellectual Property* 403, at 404.

The basic subject matters of the Swakopmund Protocol are traditional knowledge (TK), related genetic resources and folklore. The rights associated with TK include requirements to obtain prior informed consent for access to such resources and benefit sharing. As TK and associated genetic resources are more relevant to agricultural practices, analysis in this section will focus on the Protocol's provisions relating to TK and genetic resources.

Content: The Swakopmund Protocol adopts a wide definition of TK that recognizes the role of TK in agricultural development. Under Section 4 protection shall be extended to traditional knowledge. Traditional knowledge is defined to include any knowledge originating from a local community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the knowledge passed on from one generation to another. The term is not limited to a specific technical field and may include agricultural, environmental or medical knowledge, as well as knowledge associated with genetic resources. Section 6 of the Protocol also recognizes collective ownership of TK.

Section 7.1-2 of the Protocol grants the owners of TK “the exclusive right to authorize the exploitation of their traditional knowledge” along with the right to prevent the exploitation of their traditional knowledge without their prior informed consent. Section 7.3 of the Protocol defines “exploitation” of traditional knowledge in the following contexts:

- (a) Where the traditional knowledge is a product:
 - (i) manufacturing, importing, exporting, offering for sale, selling or using beyond the traditional context the product;
 - (ii) being in possession of the product for the purposes of offering it for sale, selling it or using it beyond the traditional context;
- (b) Where the traditional knowledge is a process:
 - (i) making use of the process beyond the traditional context;

- (ii) carrying out the acts referred to under paragraph (a) of this subsection with respect to a product that is a direct result of the use of the process.⁵³⁵

Section 7.4 of the Protocol also grants the owners of TK the right to institute legal proceedings against any person who carries out any of the acts mentioned in section 7.3 without the owner's permission. The Swakopmund Protocol is better suited for Africa because it defines TK and the rights that should be associated with it in greater detail than in agreements like the CBD and Nagoya Protocol. This broader definition of TK would allow communities to benefit from protection of a wider range of genetic resources. The scope of protection granted to TK is similar to that conferred by IP protection on holders of patents or PBRs.

Section 9.1 of the Protocol states that the “protection to be extended to traditional knowledge holders shall include the fair and equitable sharing of benefits arising from the commercial or industrial use of their knowledge, to be determined by mutual agreement between the parties.” By this provision the Swakopmund Protocol extends TK rights to the utilization of products and processes beyond the traditional context. The provisions will help in ensuring that the owners of TK continue to benefit from it, even when TK is transformed into products and processes that enter the formal market.⁵³⁶ This position is reinforced by the provisions of Section 11 (Exceptions and limitations applicable to protection of traditional knowledge), which declare that the “protection of traditional knowledge under this Protocol shall not be prejudicial to the continued availability of traditional knowledge for the practice, exchange, use and transmission of the knowledge by its holders within the traditional context.”

⁵³⁵ Swakopmund Protocol, Section 7.3.

⁵³⁶ At 110.

Implications for Food Security in West Africa: For regions like West Africa, where food production relies greatly on plants based on traditional knowledge, the protection of holders and custodians of traditional knowledge espoused in the Protocol is a useful legal tool that can be utilized to prevent the misuse, unlawful exploitation or misappropriation of TK and expressions of folklore by member states.⁵³⁷ However, it is interesting to note that the words ‘intellectual property’ or IPRs were not used in the provisions relating the rights for protecting traditional knowledge and associated genetic resources. The term IPRs was only used in section 19.2(a)(iv) regarding folklore, where prior informed consent is required to obtain IPRs over expressions of folklore.

The absence of the words “intellectual property rights” in describing TK and related genetic resources indicates two things: Firstly, it seems that the Protocol does not view TK as intellectual property, thus the provisions promote TK as a distinct legal regime separate from IPR. While this may give greater flexibility to protecting traditional knowledge, it will grant the Swakopmund provisions relating to TK less weight in interpreting IP regulations than if TK and genetic resources were recognized as a form of IP. The provisions do not qualify as *sui generis* protection of PVP under Article 27.3 of the TRIPS Agreement, as they do not refer to plant varieties. Secondly, the choice not to use the words IPRs in relation to TK may indicate that the agreement defers to the norms in current IP regimes relating to the relationship between IPR and TK. Thus, the Protocol does not attempt to develop protection of TK by utilizing flexibilities to IPRs, or exceptions and limitations to patents and PVP.

Because the genetic resources owned by TK in the Swakopmund Protocol may also be owned by IPR under the provisions of the Arusha Protocol for the Protection of New Varieties of

⁵³⁷ Swakopmund Protocol, Preamble.

Plants,⁵³⁸ conflict between the agreements seems inevitable. The question that will arise is where ARIPO is faced with a conflict between the two Protocols, which one should prevail? While the Swakopmund Protocol recognizes the need to protect TK and associated genetic resources, it does not provide specific obligations, or sanctions to ensure the enforcement of its provisions.⁵³⁹

The language used in the Swakopmund Protocol is less specific than that used in the Arusha Protocol. For example, while Articles 31-32 of the Arusha Protocol enables third parties to obtain and exercise IPRs within the ARIPO States, TK holders are not granted similar rights by ARIPO pursuant to the Swakopmund Protocol.⁵⁴⁰ The lack of specificity would give the Swakopmund Protocol less legal weight in legal interpretation. Considering that only four West African states are members of ARIPO and signatories to the Protocol, while eight are members of the OAPI, it is less likely to impact IP regulations in ECOWAS states. Based on the above evaluations, the Swakopmund Protocol can be said to be of limited value to advancing West African food security in IP regulations.

(B) Non-IP Based Treaties

3.6.5 The Cotonou Agreement

Background: Signed in 2000, the Cotonou Agreement⁵⁴¹ is a free trade agreement between the European Union (EU) and the African, Caribbean and Pacific (ACP) group of countries. The EU-

⁵³⁸ See section 3.5.1 above.

⁵³⁹ Compare Chapter XIII of the ARIPO Protocol which provides for Appeals and Enforcement procedures and Chapters VI, VIII-XII of the Arusha Protocol which contain detailed provisions on the examination of PBR, Fees, Transfers and Licenses relating to PBRs.

⁵⁴⁰ Enyinna Nwauche, “The Swakopmund Protocol and the Communal Ownership and Control of Expressions of Folklore in Africa” (2014) 17:5-6 *The Journal of World Intellectual Property* 191, at 191.

⁵⁴¹ *Partnership Agreement between the Members of the African, Caribbean and Pacific Group of States of the One Part, and The European Community and its Member States of the Other Part*, [Cotonou Agreement]. Signed in Cotonou on 23 June 2000, revised in Luxemburg on 25 June 2005, and revised in Ouagadougou on 22 June 2010.

ACP partnership has its historical roots in the trade linkages between various EU member states and former colonies, including West African countries.⁵⁴² From 1975-2000, this relationship was governed by the Lomé Conventions, a group of agreements under which the EU granted duty free access to the European market for a number of export products from ACP countries on a non-reciprocal basis.

However, with the dawn of the multilateral trade system instituted by the WTO, such preferential treatment became problematic, as it went contrary to the WTO principle of non-discrimination in trade between countries. This issue came to a head in the successive challenges by various Latin American countries (and the US) to the EU's banana regime designed to provide preferential market access to bananas from ACP countries.⁵⁴³ The resulting difficulty in getting a waiver for the post Lomé trade arrangements, coupled with the fact that the preferences granted did not lead to significant economic development in ACP countries, persuaded the EU that its future trading arrangements with the ACP countries would have to be WTO-compatible and based on an alternative model for development.⁵⁴⁴

The desire for a new approach resulted in the negotiation of the Cotonou agreement in 2000, which replaced the Lomé IV Convention.⁵⁴⁵ The Cotonou agreement aims to “promote and expedite the economic, cultural and social development of the ACP States, with a view to contributing to peace and security and to promoting a stable and democratic political

⁵⁴² Stephen R. Hurt, “Co-operation and Coercion? The Cotonou Agreement between the European Union and ACP States and the End of the Lome Convention” (2003) 24:1 *Third World Quarterly*, 161 at 165.

⁵⁴³ *European Communities-Regime for the Importation, Sale and Distribution of Bananas* (EC-Bananas III), 22 May 1997, WT/DS27/R/ECU, WT/DS27/R/GTM, WT/DS27/R/HND, WT/DS27/R/MEX, WT/DS27/R/USA. See also the Appellate Body decision, WT/DS27/AB/R.

⁵⁴⁴ European Commission's Directorate-General for Trade, “The Economic Impact of the West Africa-EU Economic Partnership Agreement”, March 2016, at 13; FAO, “Regional Integration and Food Security in Developing Countries”, *TCAS Working Document* No.50, April 2003, at 55-56.

⁵⁴⁵ Economic Commission for Latin America and the Caribbean (CEPAL), *The Cotonou Agreement: Selected Issues, Effects and Implications for the Caribbean Economies*, 14th December 2005, LC/CAR/L.066 (2005) at 4 [Cotonou Issue Paper].

environment”. It spells out new orientations regarding economic and trade cooperation. A key objective is to promote the gradual integration of the ACP States into the world economy.⁵⁴⁶ The treaty reflects a policy shift in EU-ACP trade relations as it moves from preferential market access to requiring reciprocal free trade between the EU and the African, Caribbean and Pacific (ACP) regions.⁵⁴⁷

Under the Lomé Conventions, ACP countries were 'entitled' to a given amount of aid, irrespective of their development performance. The Cotonou Agreement established a European Development Fund, which made the grant of European aid a subjective 'reward', given depending on the success of ACP countries in fulfilling certain conditions (such as sound economic policies, governance, effective implementation, support to non-state actors) as assessed by the European Community.⁵⁴⁸ ACP countries were persuaded to adopt World Bank-imposed structural adjustment programmes (SAPS) under the increasing management and supervision by the EU of its financial assistance.⁵⁴⁹

Some ACP States are extremely susceptible to pressures from the European Union since their budgets are heavily dependent on European Union programme assistance.⁵⁵⁰ Consequently, some scholars view the negotiations of the Cotonou Agreement as being unbalanced, as the fear of being cut off from aid influenced ACP states into adopting western norms and systems related to trade and IP represented in the Cotonou Agreement.⁵⁵¹ The following section examines the

⁵⁴⁶ Commission of the European Communities, “Green Paper Promoting a European framework for Corporate Social Responsibility”, DOC/01/9, Brussels, 18 July 2001, p. xiii [Green Paper].

⁵⁴⁷ Pannhausen, *Economic Partnership Agreements and Food Security*, *supra* note 130, at i.

⁵⁴⁸ The Cotonou Agreement, Articles 36 and 96.

⁵⁴⁹ Hurt, *supra* note 555, at 163-164.

⁵⁵⁰ James Gathii, “The Cotonou Agreement and Economic Partnership Agreements”, in UN-OHCHR, *Realizing the Right to Development* (New York: UN, 2013) 259-273, at 270

⁵⁵¹ Hurt, *supra* note 555, at 162-163.

provisions of the agreement relevant to food security and that guide its relationship with other multilateral and regional treaties.

Content: The main objective of the Cotonou agreement is the “eradication of poverty in a consistent manner with the objectives of sustainable development and the gradual integration of the ACP countries in the world economy.”⁵⁵² The methods adopted for achieving its objectives include the progressive dismantling of trade barriers and preferences, integrating ACP countries into the multilateral system, and making the EU-ACP trade relations WTO compatible.⁵⁵³ However, contemporary studies question the viability of these tools for poverty eradication in ACP countries.⁵⁵⁴

RTAs can be justified to support food security under Article 29(3)(b) of the Cotonou Agreement, which declares that “In the area of regional policies for sustainable development, cooperation shall support the priorities of ACP regions and, in particular: food security and agriculture.” The fact that these articles are framed in general terms, without stating legal obligations or commensurate actions, greatly reduces the capacity of states to utilise and to enforce these provisions to meet their contextual food security interests.

The provision that offers the greatest potential for factoring food security into the regional agreement is Article 23 of the 2010 revision of the Cotonou agreement, which states that:

Cooperation shall support sustainable policy and institutional reforms and the investments *necessary for equitable access to economic activities and productive resources*, particularly: The development of strategies with a view to enhancing agricultural production and productivity in ACP States by providing, in particular, the necessary financing for agricultural research, agricultural inputs and services, supportive rural infrastructure,

⁵⁵² Cotonou Agreement, Article 1, p.7.

⁵⁵³ Cotonou Issue Paper, *supra* note 558, at 7.

⁵⁵⁴ Hurt, *supra* note 555, at 173-174.

and risk reduction and management. Support shall include public and private investments in agriculture, encouragement to develop agricultural policies and strategies, strengthening of farmer and private sector organisations, management of natural resources, and development and functioning of agricultural markets. The agricultural production strategies shall reinforce national and regional food-security policies and regional integration. In this context, cooperation shall support ACP efforts to enhance the competitiveness of their commodity exports and to adapt their commodity export strategies in the light of evolving trade conditions.⁵⁵⁵

Despite acknowledging the importance of supporting agricultural production, the provision limits itself to supporting the changes necessary for access to economic activity (specified as finances) and productive resources. It stops short of acknowledging farmers rights, but only requires a strengthening of farmers' organizations. This provision appears to have been written to support breeders and PBRs, rather than smallholder farmers whose primary interest lies in protecting local genetic resources from access, except on equitable provisions. Also, the provision entrenches the multilateral IP principle, found in TRIPS and the UPOV, of the separation of breeder's rights from farmer's rights and the proprietary control of agricultural produce. The latter idea runs contrary to the practices of smallholder farmers in West Africa where open access to agricultural knowledge within a community and free exchange of farm saved seeds is the norm, and where the farmer's right includes the right to benefit from breeding activities.⁵⁵⁶ This greatly reduces the potential for the agreement to support food security in West Africa, as it runs contrary to the traditional agricultural processes in the region.

Implications for Food Security in West Africa: While the agreement emphasizes the need of adherence to TRIPS and the CBD, as well as the need to accede to all relevant international

⁵⁵⁵ The Cotonou agreement, Ougadaga revision, 22 June 2010, Article 23(d) [Emphasis added].

⁵⁵⁶ Oguamanam, *Breeding Apples for Oranges*, *supra* note 122, at 167.

conventions on intellectual, industrial and commercial property as referred to in Part I of the TRIPS Agreement, it does not give details on how interrelations between the agreements should be managed.⁵⁵⁷ This indicates that it does not see the provisions of TRIPS and the CBD relevant to intellectual property, food security and development as being contradictory, but as mutually supportable. The non-regulation of the topic allows for relations between TRIPS and the CBD to be structured at the regional or domestic level.

In Article 36.1, “the Parties agree to take all the necessary measures to ensure the conclusion of new WTO-compatible Economic Partnership Agreements”. This prioritizes the international regulations of the WTO over future regional treaties.⁵⁵⁸ This reduces the flexibility offered to ACP countries in adopting *sui generis* treaties in order to achieve domestic food security. The Cotonou agreement presents Economic Partnership Agreements (EPAs) and trade liberalization as the only viable method for achieving development, an assumption that a Canadian study relating to Africa continues to challenge.⁵⁵⁹

Conformity to the multilateral standards of IP protection, rather than differentiation is reinforced in Articles 39(1) and 46 of the Cotonou agreement, which emphasize that parties should become WTO members, follow the WTO agenda, and recognize “the need to ensure an adequate and effective level of protection of intellectual, industrial and commercial property rights, and other rights covered by TRIPS including protection of geographical indications, in line with the international standards with a view to reducing distortions and impediments to bilateral trade.”

⁵⁵⁷ Cotonou Agreement, Articles 46(2) and 46(3).

⁵⁵⁸ Cotonou Agreement, Article 36.

⁵⁵⁹ See Konrad von Moltke, *Implications of the Cotonou Agreement for Sustainable Development in the ACP Countries and Beyond* (Winnipeg, Manitoba, Canada: International Institute for Sustainable Development (IISD), 2004), at 16-21.

The importance of harmonizing relations between various bilateral, regional, and multilateral IP related agreements cannot be denied. However, the insistence that countries adopt TRIPS standards of IP protection, without demanding the requisite preservation of TRIPS exceptions and limitations to IPRs, reduces the flexibility of countries to adopt alternative regional agreements. Also, TRIPS adopts the national treatment principle, which requires WTO members to grant the same level of IP protection to other countries as it does within its own borders; along with the most favoured nation principle, which prohibits countries from differentiating in the provision of trade concessions across countries or regions. This curbs the room for application of the differentiation principle in RTAs.

Article 37A(1) of the Cotonou Agreement, permits the EU and the ACP States to “take part in negotiations and implementation of agreements leading to further multilateral and bilateral trade liberalisation.” This permission is granted even where such liberalization may lead to the erosion of the preferences granted to the ACP States and affect their competitive position in the EU market, as well as their development efforts. This prioritization of trade above competition and development does not acknowledge the holistic effects of contemporary IP related RTAs, making it more difficult to obtain balanced regional treaties that protect food security interests.

The suitability of the Cotonou Agreement for advancing food security in West Africa is questionable, as the agreement does not specifically provide for differentiation relating to agricultural production and trade, that ACP countries have indicated as being of primary importance in the African context.⁵⁶⁰ For example the Cotonou Agreement does not make substantial provision for special and differential measures providing flexibility to apply measures

⁵⁶⁰ See proposals in WTO document submitted during the “analysis, information and exchange” process in the lead up to Seattle and the current Article 20 WTO Agreement on Agriculture mandated review negotiations, in AIE/52 (10/3/99), WT/GC/163, WT/GC/233, Job(99)/3169.

to safeguard small farmers against import surges and unfair trade practices, particularly those affecting production of staple food products; lacks policy instruments aimed at protecting and enhancing developing countries domestic food production capacity particularly for staples, and providing or at least maintaining existing employment for the rural poor; nor does it protect farmers rights or prevent the dumping of cheap and subsidized imports on developing countries.⁵⁶¹

Under the Cotonou agreement the West African region would continue to be obliged to open up 80% of their markets to EU trade. Considering the inadequacy of West Africa's small sector agricultural farmers to compete with global production rates, this is not advised. The final hope is in the volume of agricultural products that the region can put on its list of sensitive products. To stay alive, the region should give itself extra protection through adopting antidumping tariffs and compensation levies.

Studies indicate that drops in tariff rates will most likely result in an enlarged amount of highly subsidized cheaper agricultural imports from Europe on the West African markets, which will thereby increasingly compete with domestic and presumably less competitive production. This development runs counter to objectives of ECOWAS Agricultural policy relevant to food security that seeks to reduce dependence by West Africa on imports. The situation is likely to be amplified by an EPA as it would result in an abolishment of tariffs for EU agricultural exports.⁵⁶²

Though supposedly aimed at African development, the Cotonou agreement does not provide differentiation that caters specifically to West Africa's food security interests. Instead the agreement reduces the flexibility of ACP countries to form models for development that suits their

⁵⁶¹ United Nations Conference on Trade and Development (UNCTAD), "Trade Negotiation Issues in the Cotonou Agreement, Agriculture and Economic Partnership Agreements" UN New York and Geneva 2003, UNCTAD/DITC/TNCD/2003/2, at 68-69; African Centre for Biodiversity, "Towards national and regional seed policies in Africa that recognize and support farmer seed systems", Policy Discussion Document, 2018, at 3-7; Alliance for Food Sovereignty in Africa (AFSA), *Resisting Corporate Takeover of African Seed Systems and Building Farmer Managed Seed Systems for Food Sovereignty in Africa* (Kampala: AFSA, 2017) at 5-6.

⁵⁶² Pannhausen, Economic Partnership Agreements and Food Security, *supra* note 130, at ii-iii.

contexts. As such, the trade framework contained in the Cotonou agreement is more noticeable for its potential to hinder, rather than advance, food security in the West African region.

3.6.6 The African Growth and Opportunities Act (AGOA)

The AGOA⁵⁶³ is a US law based on which the USA maintains preferential non-reciprocal trade agreements with 39 countries in Sub-Saharan Africa. Originally enacted by the US Senate on 18th May 2000, AGOA was renewed in 2015 for another ten years. Currently, the list of countries eligible to receive benefits under AGOA includes all West African states, except Gambia.⁵⁶⁴ The list however is not permanent, but subject to the wish of the US president. Section 104(a)(1)(A) of AGOA indicates that the US drafted AGOA with the objective of streamlining a market-based approach in African countries, that principally protects commercial interests and private property rights.

Background: AGOA was drafted predominantly by US policymakers and subsequently imposed on African countries as a ‘take it or leave it’ position. African countries have little or no ability to negotiate more favourable terms therein. As such, AGOA could be better described as a forceful imposition, rather than as an agreement between the US and African countries.⁵⁶⁵ The provisions of the Agreement adopt the TRIPS- plus standards of the UPOV agreement, rather than the IP standards contained in TRIPS.

⁵⁶³ US *Trade and Development Act*, 2000; P.L. 106-200 [AGOA].

⁵⁶⁴ “AGOA Country Eligibility”, *AGOA.Info*, (2019), online: <<https://agoa.info/about-agoa/country-eligibility.html>>.

⁵⁶⁵ Thaddeus Manu, *Reasons for AGOA*, *supra* note 203, at 15.

Content: For a country to be eligible to participate in AGOA it has to fulfill certain conditions, including: the establishment of a market-based economy that protects private property rights;⁵⁶⁶ and the strengthened protection of IPRs.⁵⁶⁷ The main provision relating to IP protection is section 104, which authorizes the US President to designate an African country listed in section 107 as a beneficiary of trade concessions if the President determines that such a country has established or is making progress towards establishing national treatment and measures to create an environment conducive to domestic and foreign investment, and the protection of IP, including providing systems for the resolution of bilateral trade and investment disputes.⁵⁶⁸

Open markets, free trade and private property rights are the tests employed to evaluate countries under this treaty, without assessing non-economic indices. Also, section 111 of the AGOA stipulates the strengthening of IP protection for US firms, in accordance with subparagraph (5) of Section 502(C) of the Trade Act 1974, as a fundamental requirement for designating countries as beneficiaries. By emphasizing the protection of IP as an eligibility criterion, AGOA effectively operates as an external or bilateral pressure that is forcing African countries to desert the much more beneficial sui generis systems under the WTO-TRIPS agreement, and instead opt for the TRIPS-plus UPOV agreement, to which many ECOWAS countries are not signatories.⁵⁶⁹ Consequently, certain authors view this condition in AGOA as a means for the US to enforce its national IP protection laws on African countries resisting the adoption of the WTO-TRIPS agreement.⁵⁷⁰

⁵⁶⁶ AGOA, S.104(a)(1)(A).

⁵⁶⁷ AGOA, S.104(a)(1)(C).

⁵⁶⁸ AGOA, Section 104(a)(1)(C)(ii).

⁵⁶⁹ Thaddeus Manu, Reasons for AGOA, *supra* note 203, at 15.

⁵⁷⁰ See Carol Thompson, "US Trade with Africa: African Growth & Opportunity?" (2004) 101 *Review of African Political Economy*, 457 at 465-466; and Peter Drahos, "Expanding intellectual property's empire: the role of FTAs", *GRAIN*, 30 November 2003.

Under Article 27.3(b) TRIPS, WTO Members are given the option of providing for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. This provides flexibility for West African countries to craft IP regulations suited for their agricultural systems. In contrast, Article 18 of the UPOV Act 1991 specifies that: “The breeder’s right shall be independent of any measure taken by a Contracting Party to regulate within its territory the production, certification and marketing of material of varieties or the importing or exporting of such material.” This provision, along with Article 5.2 of the UPOV, would not allow the right of the breeder to be subject to other interests such as regulations protecting small scale agriculture and subsistence farmers. The breeders right is extended to include authority over harvested material (Article 14.2 UPOV), while farmers’ rights are made subject to the interests of breeders (UPOV Art 15.2). Patents under TRIPS last for 20 years. PBRs under Article 19.2 of ALGOA make 20 years the minimum, not the maximum length of protection. These UPOV provisions will curtail the capacity of West African states to apply the provisions of the TRIPS Articles 7-8, the CBD and ITPGRFA that allow for conservation and social interests to be factored in IP regulations.⁵⁷¹ Considering the preeminence given to PBRs, rather than farmer’s rights that are required to support food security in the West African region, AGOA will have disparaging effects for food security in the region.

The US favors a strong approach to IP protection which: advances proprietary control of agricultural seeds and genetic material through PBRs, over farmers’ or community rights; favors the private interests of multinational corporations in open markets and trade, above national non-economic public interests of states; utilizes bilateral trade agreements to compel African countries to adopt TRIPS-plus and UPOV for IP standards more quickly, including LDC; and reduces the

⁵⁷¹ See Thaddeus Manu, “Ghana trips over the TRIPS Agreement on Plant Breeders’ Rights” (2016) 9 *African Journal of Legal Studies*, 20-45.

ability of states to adopt *sui generis* systems of IP protection and other flexibilities provided under the WTO-TRIPS agreement.⁵⁷²

The AGOA approach stands in disparity with the need for greater flexibility needed to support the traditional agricultural practices maintained by small scale farmers in West Africa, who supply 80% of the agricultural production for local consumption in the region.⁵⁷³ Generally, agricultural production in the ECOWAS region is built on small holder subsistence farms (of less than 10 hectares), producing a wide variety of crops.⁵⁷⁴ Smallholder farmers have developed crop systems which are based on traditional knowledge, development of local varieties and the free exchange of seeds, areas that are not protected under formal IP regimes.⁵⁷⁵ A lot of the agricultural trade in West Africa is carried out informally. Relatively little use is made of IP protected genetically modified seed, or technology like fertilizers and agricultural machinery. Also, more than 90% of seeds used by smallholder farmers are sourced from among themselves through traditional and informal seed exchange and sharing practices.⁵⁷⁶ This is especially true in the case of food crops.⁵⁷⁷ Recent studies suggest that, due to its sustainability, traditional knowledge relating to Africa's local plants plays an important role in fostering food security and nutritional health in the region.⁵⁷⁸

Implications for Food Security in West Africa: If West African countries accept Section 104(A) conditions, then the impact of strengthened IPRs will increase royalty payments required by the

⁵⁷² Thompson, *supra* note 583, at 465.

⁵⁷³ International Fund for Agricultural Development (IFAD), (2013) 'Smallholders, Food Security and the Environment'. Online at: http://www.unep.org/pdf/SmallholderReport_WEB.pdf, at 10.

⁵⁷⁴ Roger Blein et al, *supra* note 467, at 7-9.

⁵⁷⁵ *Ibid*, at 7-9, and 30.

⁵⁷⁶ Borowiak, Farmers' Rights, *supra* note 512, at 511-543.

⁵⁷⁷ Roger Blein et al, *supra* note 467, at 31-32.

⁵⁷⁸ See Asogwa, Okoye & Oni, *supra* note 470, at 75-87; Cordeiro, *supra* note 470, at 273-287.

technology holders. As most of the PBRs and patents related to seeds and agricultural products are owned by non-African countries, this would increase the costs of access to West African countries. It would also reduce the control of farmers over their seeds.

Under AGOA, signatory African countries are able to implement public interest measures only if they are permissible under US jurisprudence. Notably, the US strictly protects PBRs under its Plant Variety Protection Act and forbids the use of compulsory licensing thereof. Unless and until an effective system of compulsory licenses is established on the African continent, the technology holders may simply refuse to transfer their technology and thereby block local technology development initiatives by West African industries. Reverse engineering, and other methods of imitative innovation that developed countries extensively used when their economies were not competitive, is made difficult even more difficult under AGOA.⁵⁷⁹

A US Congress report highlights the fact that participation in the AGOA has not facilitated increased agricultural exports for countries in West Africa.⁵⁸⁰ Energy-related products (e.g., crude oil) dominate U.S. imports from Sub Saharan Africa (SSA) under AGOA and the General system of preferences (GSP), representing 69% of such imports in 2014. U.S. imports from SSA under AGOA and GSP are heavily concentrated in South Africa. Ivory Coast (\$70 million) and Malawi (\$60 million), also exported primarily cocoa products and tobacco under the preference programs. Aside from these top countries, however, the preferences were not heavily utilized. Most of the current trade between West African countries and the USA would continue in spite of the AGOA. Considering that the preferences were granted to crops for export rather than food crops, it is unlikely that AGOA participation will lead to increased food security in West African states.⁵⁸¹

⁵⁷⁹ Thompson, *supra* note 583, at 465-466.

⁵⁸⁰ Brock Williams, "African Growth and Opportunity Act (AGOA): Background and Reauthorization", *Congressional Research Service Report*, R43173, 22 April 2015.

⁵⁸¹ *Ibid.*, at 8-11.

AGOA does not require modest economic deregulation, but the outright removal of any and all tariff protections. This opens African markets to a dumping of American agricultural products which, because they are produced in large quantities at subsidized costs and have higher value added, are likely to compete and inevitably undermine local agriculture.⁵⁸² Many agricultural products from the continent are unable to compete with the phytosanitary standards required by the US, while some products have been excluded from the AGOA framework.⁵⁸³

The implications that this will have for food security in West Africa, is illustrated in the following example: During the 1991-92 drought in Southern Africa, Zambian farmers were able to produce some wheat because of irrigation schemes. Because Zambia had opened up its agricultural markets under a structural adjustment programme, the US could dump wheat in landlocked Zambia at a selling price cheaper than the Zambian farmers' break-even price. Zambian wheat, which should have elicited premium prices because of the drought, could not be sold.⁵⁸⁴ Economic studies do not indicate that AGOA has led to increased trade for African countries that have not already acquired substantive technological capacity in agriculture, thus reducing its benefits for food security in West Africa.⁵⁸⁵

3.6.7 The African Continental Free Trade Area Agreement (AfCFTA)

Background: On 21 March 2018 during an extraordinary summit held in Kigali, 44 member states of the African Union (AU) signed the Agreement Establishing the African Continental Free Trade

⁵⁸² H. Jason, "Trading with the enemy", *Foreign Policy in Focus*, 16 February 2011, online at: <http://fpif.org/trading_with_the_enemy/>, (accessed on 20 December 2016).

⁵⁸³ Musibau Babatunde, "Conforming to Sanitary and Phytosanitary Measures by African Smallholder Farmers: Challenges and Constraints" (2018) demonstrates how SPS in AGOA is affecting trade in different African countries. <<file:///C:/Users/uchel/Downloads/CONFORMINGTOSANITARYANDPHYTOSANITARYMEASURESBYAFRICANSMALLHOLDERFARMERSCHALLENGESANDCONSTRAINTS.pdf>>. (Accessed 18/8/2019).

⁵⁸⁴ Thompson, *supra* note 583, at 467.

⁵⁸⁵ UNCTAD, *World Investment Report 2015* (2015) 32-36.

Area (AfCFTA).⁵⁸⁶ In July, 2018, during the 31st African Union summit held in Nouakchott, 5 additional member states of the African Union signed the Kigali Declaration, by which they committed to sign the Agreement of the African Continental Free Trade Area once they had undertaken necessary national consultations.⁵⁸⁷

A free trade area is a form of economic integration whereby countries reduce or abolish all trade impediments among themselves, but retain their individual policies and trade barriers with the outside world. All the tariffs and quantitative restrictions on substantially all trade are eliminated. Establishing a free trade area in Africa is about liberalising intra-regional trade among countries in the continent.⁵⁸⁸ The creation of a free trade zone means that each member country has the power to determine or fix its own tariff rates on imports from non-member countries. It also means that the rules of origin are designed in such a manner that preferential treatment is confined to goods or services emanating from within the free trade area. By so doing, member states are able to derive benefits from the preferential trading arrangements.⁵⁸⁹

The emerging African free trade area is part of the AU's regional integration strategy to overcome the constraint of small and fractioned markets and economies in Africa. The establishment of free trade areas is consistent with the international trading system of the WTO, as provided in Article XXIV of the General Agreement on Tariffs and Trade (GATT) of 1947, the Enabling Clause and Articles V and V(bis) of the General Agreement on Trade in Services (GATS). The AfCFTA is a mega-regional agreement which will encompass the 55 member

⁵⁸⁶ African Union (AU), *Agreement Establishing the African Continental Free Trade Agreement (AfCFTA)*, Kigali draft text, March 2018, TI21086_E. [AfCFTA].

⁵⁸⁷ The additional signatories were South Africa, Namibia, Burundi, Lesotho and Sierra Leone.

⁵⁸⁸ United Nations Economic Commission for Africa (UN-ECA), *African Continental Free Trade Area: Towards the Finalization of Modalities on Goods-Toolkit* (Addis Ababa: UN-ECA, 2018) at 1.

⁵⁸⁹ Yeukai Mupangavanhu, "The protection of intellectual property rights within the continental free trade area in Africa: Is a balance between innovation and trade possible?" (2018) 15:4 *International Journal of Business, Economics and Law*, 14 at 15 [Mupangavanhu, The protection of IPRs in the CFTA].

countries of the AU and eight recognized Regional Economic Communities (RECs).⁵⁹⁰ This will be one of the world's largest free-trade areas in terms of the number of countries, covering more than 1.2 billion people and over \$4 trillion in combined consumer and business spending if all 55 countries join. Phase II of the AfCFTA negotiations will focus on investment, IP rights and competition policy with the draft legal texts being due for submission to the Assembly by January 2020.⁵⁹¹

In the preamble of AfCFTA, member countries of the African Union state their determination to build upon their rights and obligations “under the Constitutive Act of the African Union of 2000, the Treaty Establishing the African Economic Community of 1991 and, where applicable, the Marrakesh Agreement Establishing the World Trade Organisation of 1994.” They also acknowledge several regional economic communities (RECs), including ECOWAS, as the building blocs upon which AfCFTA will be established. This hints at a desire to conform with existing multilateral and regional trade agreements relevant to Africa.

Content and Implications for Food Security: Pursuant to Article 3, the general objectives of AfCFTA include the creation of a single more liberalized market for trade of goods in Africa and facilitating the establishment of a continental customs union.⁵⁹² Other AfCFTA objectives that are relevant to food security are to: promote and attain sustainable and inclusive social and economic development and structural transformation of the State Parties;⁵⁹³ enhance the competitiveness of

⁵⁹⁰ Specifically, the Common Market for Eastern and Southern Africa (COMESA); the Community of Sahel-Saharan States (CEN-SAD); the East African Community (EAC); the Economic Community of Central African States (ECCAS); the Economic Community of West African States (ECOWAS); the Inter-governmental Authority on Development (IGAD); the South African Development Community (SADC); and the Arab Maghreb Union (AMU).

⁵⁹¹ African Union Decision, Assembly of the Union Tenth Extraordinary Session 21 March 2018 Kigali, Rwanda. (2018) Ext/Assembly/AU/Dec.1(X).

⁵⁹² AfCFTA, Article 3 (a), (b), and (c).

⁵⁹³ AfCFTA, Article 3(d).

the economies of State Parties within the continent and at the global market;⁵⁹⁴ promote industrial development through diversification and regional value chain development, agricultural development and food security;⁵⁹⁵ and to resolve the challenges of multiple and overlapping memberships and expedite the regional and continental integration processes.⁵⁹⁶ The agreement seeks to realize the general objectives of Article 3 by placing obligations on countries, categorized as specific objectives, to eliminate tariffs and non-tariff barriers to trade in goods, liberalize trade in services and cooperate on IPRs and competition policies (Article 4). It also adopts principles similar to those in multilateral treaties (Article 5).

The suitability of the transparency requirement in Article 17.2, which states that AfCFTA provisions “shall not require any State Party to disclose confidential information which... will prejudice the legitimate commercial interest of particular enterprises, public or private” is questionable, as the provision might limit the ability of African countries to disclose IP protected information necessary for the grant of compulsory licenses for public interest purposes. The holder of a PBR may protest against the distribution of cheaper generic versions of seeds to farmers as going against their legitimate commercial interest of maximizing profits.

In the event of any inconsistency between any regional agreement and the AfCFTA, the provisions of the latter shall prevail.⁵⁹⁷ However, the AfCFTA Agreement shall not nullify, modify or revoke rights and obligations under preexisting trade agreements that State Parties have with third parties.⁵⁹⁸ Similarly, Article 22 (Exceptions) of the AfCFTA restricts the use of exceptions, by stating that “No provision in this Agreement shall be interpreted as derogating from the

⁵⁹⁴ AfCFTA, Article 3(e).

⁵⁹⁵ AfCFTA, Article 3(f).

⁵⁹⁶ AfCFTA, Article 3(g).

⁵⁹⁷ AfCFTA, Article 20.

⁵⁹⁸ AfCFTA, Article 19.3.

principles and values contained in other relevant instruments for the establishment and sustainability of the AfCFTA, except as otherwise provided for in the Protocols to this Agreement.” This adherence to a one size fits all approach greatly reduces the utility of the AfCFTA as a tool for differentiation, which is an important characteristic necessary for harnessing regional trade agreements to support African food security.

As previously discussed, current multilateral regimes governing IP (TRIPS and the UPOV) were designed to support forms of industrial agriculture prevalent in developed countries. They are based on norms such as monopolistic proprietary control of agricultural inventions, including seeds, by patents and PBRs; and require stronger IP protection, open markets and trade. However, the latter regimes are unsuitable for the small scale agriculture dominant in West Africa, as they restrain the rights of farmers to freely exchange and use farm-saved, in favor of the rights of breeders; advances the research and protection of monocultures, over biodiversity obtainable in local plants; and provides more support to multinational corporations.⁵⁹⁹ For IP regulation to advance food security in West Africa, differentiation is a necessity, not an option, which the AfCFTA in its current form has chosen to ignore.

Under Article 6.3(b) of the AfCFTA Protocol on Trade in Goods, an import duty shall not include any: “antidumping or countervailing duties imposed in accordance with Articles VI, and XVI of GATT 1994 and the WTO Agreement on Subsidies and Countervailing Measures and Article 16 of this Protocol;⁶⁰⁰ duties or levies imposed in relation to safeguards, in accordance with Articles XIX of GATT 1994, the WTO Agreement on Safeguards and Articles 17 and 18 of the Protocol;⁶⁰¹ and other fees or charges imposed consistently with Article VIII of GATT 1994.⁶⁰²

⁵⁹⁹ Oguamanam, *Breeding Apples for Oranges*, *supra* note 122, at 167.

⁶⁰⁰ *Protocol on Trade in Goods*, AU, Protocol to AfCFTA, signed 16 May 2018 (pg 17 AfCFTA).

⁶⁰¹ AfCFTA, Article 6.3(c).

⁶⁰² AfCFTA, Article 6.3(d).

This leaves African countries the option of adopting antidumping, subsidies, or countervailing measures to prevent the dumping of agricultural produce in a manner that is detrimental to the food security interests of the nation. Bearing in mind historical antecedents, it is unlikely that African countries will be bold enough to adopt such measures considering the reliance of their economies on foreign trade.

Under Article 23.1 of the Protocol, African countries may also adopt measures to protect infant industries in the agricultural sector, provided that such measures are non-discriminatory and for a specified period of time. Article 25 of the Protocol allows parties to adopt or enforce exception necessary to protect human, animal or plant life and health; and that are essential to the acquisition or distribution of foodstuffs or any other products in general or local short supply, provided that such exceptions are not discriminatory and do not form a disguised restriction to international trade. These conditions are similar to the conditions under TRIPS. Flexibilities shall be provided for special and differential treatment of parties based on their level of economic development.⁶⁰³

While the U.N. Economic Commission on Africa projects that intra-African trade is likely to increase by 52.3 percent under the AfCFTA, it acknowledges that the tariff line approach for liberalization of goods adopted under the AfCFTA agreements could negatively impact African countries along the following considerations:⁶⁰⁴

- a) The risk that less trade will be offered to African counterparts than what has been agreed with the members of the European Union under EPAs (generally 80 per cent of imports to be liberalized);

⁶⁰³ AfCFTA Protocol on Trade in Goods, Article 27.

⁶⁰⁴ United Nations Economic Commission for Africa (UN-ECA), *African Continental Free Trade Area: Towards the Finalization of Modalities on Goods-Toolkit* (Addis Ababa : UN-ECA, 2018), at 1-2.

- b) The risk of censure through the World Trade Organization (WTO) regional trade agreement surveillance process, if all trade is not liberalized substantially;
- c) Uneven liberalization efforts across countries and regions (90 per cent of tariff lines resulting in different values of imports to be liberalized across countries and regions); and
- d) Limited economic gains from unambitious liberalization (limiting tariff revenue loss rather than substantial trade creation and additional revenue gains).

3.6.8 The African Model Law

The primary attempt to suggest a framework for regulating plant varieties and food security in Africa was the development, by the then Organization of African Unity (OAU), of The African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources.⁶⁰⁵ Despite its title, The African Model Law is more of a collection of principles. It has not yet been enacted into legislation. However, the model is significant as representing an independent attempt by Africans to integrate their obligations under various multilateral agreements affecting IP and food security such as TRIPS, the CBD, and ITPGRFA.

The Model Law seeks to provide an effective sui generis system that would protect rights of plant breeders while taking into account farmers' rights. According to the Model Law, the rights of local communities over their biological resources, knowledge and technologies that represent the very nature of their livelihood systems and that have evolved over generations of human

⁶⁰⁵ OAU, *African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources*, OAU Model Law, Algeria, 2000 [African Model Law].

history, are of a collective nature and, therefore, are a priori rights which take precedence over rights based on private interests.⁶⁰⁶

The Model African Law goes beyond the ITPGRFA in granting exclusive rights to farmers over their varieties.⁶⁰⁷ Specifically, the Model Law grants farmers exclusive rights including the rights to use, save, sell and exchange seed or propagating material. In particular, farmers' rights would include the right to: (a) the protection of their traditional knowledge relevant to plant and animal genetic resources; (b) obtain an equitable share of benefits arising from the use of plant and animal genetic resources; (c) participate in making decisions, including at the national level, on matters related to the conservation and sustainable use of plant and animal genetic resources; (d) save, use, exchange and sell farm-saved seed/propagating material of farmers' varieties; (e) use a new breeders' variety protected under this law to develop farmers' varieties, including material obtained from gene banks or plant genetic resource centers; and (f) collectively save, use, multiply and process farm saved seed of protected varieties.⁶⁰⁸

Yet, the Model law does not overlook PBRs. Specifically, farmers do not have the right to sell farm-saved seed/propagating material of a breeders' protected variety in the seed industry on a commercial scale.⁶⁰⁹ Breeders' rights on a new variety are only subject to restriction with the objective of protecting food security, health, biological diversity and any other requirements of the farming community for propagation material of a particular variety.⁶¹⁰ As the latter fall under the public interest exceptions provided for under Articles 8.1, 27.2, 27.3 and 30 TRIPS and in Paragraph 5 of the Doha Declaration; and because design of alternative frameworks for plant

⁶⁰⁶ African Model Law, Preamble.

⁶⁰⁷ Stephen Brush, "Farmers Rights and Protection of Traditional Agricultural Knowledge" (2007) 35:9 *World Development*, 1499 at 1510.

⁶⁰⁸ African Model Law, Article 26.1.

⁶⁰⁹ African Model Law, Article 26.2.

⁶¹⁰ African Model Law, Article 26.3.

variety protection is permissible under TRIPS Article 27, the African Model law is consistent with treaty obligations of ECOWAS states under the WTO.

The African Model Law allows farmers to certify plant varieties in four ways. Firstly, farmers can certify their varieties as intellectual property without meeting the criteria of distinction, uniformity, and stability that breeders must meet. This certificate provides farmers with “the exclusive rights to multiply, cultivate, use or sell the variety, or to license its use.”⁶¹¹ Secondly, farmers are given the right to “obtain an equitable share of benefits arising from the use of plant and animal genetic resources.”⁶¹² Article 66 allows for the formation of a Community Gene Fund to accomplish benefit sharing and to be financed by royalties fixed to registered breeders’ varieties. Thirdly, farmers are guaranteed an exemption to PBRs so as to “collectively save, use, multiply, and process farm-saved seed of protected varieties.”⁶¹³ Fourthly, farmers’ varieties are to be certified as being derived from “the sustainable use of a biological resource.”⁶¹⁴ However, because the PVP certificate does not require financial reward, it might be of limited value to farmers.⁶¹⁵

The Model Law has been criticized by WIPO and UPOV as infringing on the commercial rights granted in PBRs.⁶¹⁶ The UPOV contended that public interest issues such as food security, community rights and farmers’ rights which the Model Law promotes should be separated from the commercial rights of breeders. WIPO maintained that the Model Laws’ rejection of patents on

⁶¹¹ African Model Law, Article 25.

⁶¹² African Model Law, Article 26.

⁶¹³ African Model Law, Article 26.1(e).

⁶¹⁴ African Model Law, Article 27.

⁶¹⁵ Brush, *supra* note 537, at 1510.

⁶¹⁶ J. Roseboom, ed, *Creating an Enabling Environment for Agricultural Innovation*, in *The World Bank Agricultural Innovation Systems: An Investment Sourcebook* (Washington, D.C: The World Bank, 2012) at 449 & 453.

life forms is a violation of TRIPS obligations.⁶¹⁷ The two organizations ignore the primary objective of the Model Law, to strike a balance between the commercial interests of breeders, food security interests and cultural and social interests of the traditional farmers in local community setting.⁶¹⁸ Achieving such balancing is important in leveraging IPRs to advance food security.

The African Model Law provides the most potential for advancing food security among West Africa's RTAs, as it recognizes farmers' rights;⁶¹⁹ along with the inalienable and sovereign rights of states and local communities over biological resources, knowledge and technologies found amongst them.⁶²⁰ The provision recognizes technology that has evolved, and does not limit itself to recognizing only innovation taking place in the formal sector. This makes room for traditional knowledge and indigenous innovation to be recognized. Access and benefit sharing, prior informed consent and farmers' rights are made a part of this law.⁶²¹ However, unless the principles underlying the African Model Law are accommodated in national and regional IP legislation, it will remain ineffective, and its potential for advancing food security will not be realized. Thus, the real challenge in West Africa is the translation of some of its core principles into regional or national IP related laws and policies.

3.7 Implications of Regional IP and Trade Regimes for Food Security in West Africa

The major characteristic found in the above RTAs applicable to West Africa, is that they fail to fulfill the function of differentiating IP rules to suit the West African context.⁶²² By requiring

⁶¹⁷ E Opoku Awuku, "Intellectual Property Rights, Biotechnology and Development: African Perspectives", in D Wuger and T Cottier, eds, *Genetic Engineering and the World Trade System: World Trade Forum* (Cambridge: Cambridge University Press, 2008) at 109.

⁶¹⁸ Strba, Legal and Institutional Considerations for PVP, *supra* note 221, at 192.

⁶¹⁹ African Model Law, art 24.

⁶²⁰ African Model Law, art 14.

⁶²¹ African Model Law, arts 3:2 and 5:1-2.

⁶²² The analysis in this section applies to all the RTAs reviewed, with the exception of the African Model Law.

conformity with multilateral TRIPS and UPOV regimes designed for more technologically advanced contexts,⁶²³ the RTAs reduce the flexibility of West African countries to adopt the provisions and legal tools that provide for differentiation under TRIPS, such as the public interest exceptions, the principle of balancing social as well as economic interests, extra time for establishing IP regimes for LDCs, and the option of adopting alternative systems for plant variety protection under Article 27.3(b) of the WTO-TRIPS agreement.

The RTAs were initiated as a result of pressure from the WTO, WIPO, and developed countries on African states to adopt Western standards and norms for IP protection, and resulted from non-transparent negotiations in which essential stakeholders in West Africa did not participate. Important stakeholders, like local farmers, did not actively participate in the negotiation of the RTAs. This led to less contextualized deals because the more inclusive the negotiation process, the more supportive its provisions will be of public interest.⁶²⁴

The seclusion of the local farmers and small-scale agricultural businesses, which play a dominant role in food production in West Africa, is a major weakness in the ability of the RTAs to support food security in the region. For though economics and trade are the primary subject of trade agreements, when applied RTAs are not isolated, they also affect social factors. As such, RTAs should not be simply viewed in narrow *economic* terms (for example, as agreements only promoting trade liberalization). Rather, regional IP rules and policies must pursue *social* as well as *legal* objectives that are no less important than the economic benefits from liberal trade, as

⁶²³ See Article 30, Annex X *Revised Bangui Agreement*; Article 4 *Arusha Protocol*; AfCFTA, Preamble and Article 3; *Cotonou Agreement*, Sections 104(a)(1)(A) and 104(a)(1)(C) AGOA; Articles 36.1, 39.1 and 46; PAIPO, Article 4.

⁶²⁴ Nirmalya Syam & Viviana Tellez, “Innovation and Global Intellectual Property Regulatory Regimes-The Tension between Protection and Access in Africa” (2016) 67 *South Centre Research Paper*, at 15, 48-49.

illustrated by the guarantees of private ‘rights to import and export’, of private access in Articles 7 & 8 TRIPS.⁶²⁵

Another key feature of the above RTAs is that they emphasize greater regional integration in Africa, as being necessary for enhancing logistic efficiency, which should result in gains for agriculture and trade in food, and enhanced food security.⁶²⁶ However, findings in this study indicate that increasing differentiation, rather than conformity, is the best option for African countries seeking to advance food security. This perspective is echoed by the Development Agenda Group (DAG), in para 1 of the DAG’s Guiding Principles where it lauded the WIPO Development Agenda for having “refuted the universal applicability of ‘one size fits all IP protection models’ or the advisability of the harmonization of laws leading to higher protection standards in all countries irrespective of the levels of development.”⁶²⁷

One area where conformity is evident is the greater protection granted in the RTAs to breeder’s rights, in comparison to farmer’s rights.⁶²⁸ Yet, the structures that support food security in West Africa include the non-infracture of the farmer’s right to control seeds by the breeder’s rights; the protection of traditional knowledge relating to plant varieties; and the advancement of smallholder farms. For regional agreements to enhance food security in West Africa it is necessary that they shift away from this linear one size fits all approach, towards a holistic approach that allows for greater differentiation to suit local conditions.⁶²⁹

⁶²⁵ Ernst-Ulrich Petersmann, “The WTO and Regional Agreements as Competing for Constitutional Reforms: Trade and Human Rights”, in Lorand Bartels and Federico Ortino, eds, *Regional Trade Agreements and the WTO Legal System* (Oxford: Oxford University Press 2006), at 290.

⁶²⁶ Ahmad Mukhtar, “Enhancing Food Security in Africa through Implementing the Trade Facilitation Agreement”, *Bridges Africa*, Vol.6:3, 17th May 2017. Online: <<https://www.ictsd.org/bridges-news/bridges-africa/news/enhancing-food-security-in-africa-through-implementing-the-trade>>.

⁶²⁷ WIPO Doc CDIP/5/9 Rev, 26 April 2010.

⁶²⁸ See Article 22.2 Arusha Protocol; Articles 22.2 & 22.3 PAIPO; and Annex X Bangui.

⁶²⁹ Boladale Adebawale *et al*, “Innovation, research and economic development in Africa” (2014) 6:5 *African Journal of Science, Technology, Innovation and Development*, v at v-vi [Adebawale, Innovation research Africa];

To support food security in West Africa, regional agreements must contain differentiating provisions protecting farmer's rights, traditional knowledge, genetic resources, open access, local innovation, informal trade and small and medium scale industries. Considering the absence of such provisions in the regional treaties examined, it is tenable to conclude that the current RTAs adopted by West African countries as suitable for advancing food security in the region.

A major challenge for agriculture and food security in regions of sub-Saharan Africa lies in the area of research and logistics.⁶³⁰ Experts emphasize that the structural shifts in the development of countries like China can be linked to their increasing investment in agricultural food research. In comparison, African countries have invested little in agricultural research. As one expert warns, “[f]or the low-income countries, the knowledge gap is widening. That has long-run, fundamental implications for their ability to not only export, but feed their own people. And they are not good implications.”⁶³¹ Current regional and trade regimes examined support increased importation of seeds, fertilizers, and other agricultural technology by West African countries, rather than investment in developing local agricultural products and local capacity building. Yet, the requirement to locally work a patent, by developing and utilizing local content and manpower, in Section 83 of India's patent law has been identified as an important balancing tool granting the country flexibility to calibrate its IP regulations to suit its domestic needs.⁶³²

Traditional knowledge and genetic resources (TK-GR) are not covered in the TRIPS Agreement. This leaves them open for regulation at the regional level. Moreover, these subjects

OECD, “Innovation for Development”, May 2012, at 16-21 [OECD, Innovation for Development], online: <<https://www.oecd.org/innovation/inno/50586251.pdf>>.

⁶³⁰ Boladale Adebawale *et al*, *Ibid*, at v.

⁶³¹ Lisa Cornish, “What Impact will Trade Agreements have on Global Food Markets?” *DEVEX*, 14th March 2018. An interview of Phil Pardey, the Director of the International Science and Technology Practice and Policy Center, online: <<https://www.devex.com/news/what-impact-will-trade-agreements-have-on-global-food-markets-92307>>.

⁶³² G. B. Reddy & Harunrashid Kadri, “Local Working of Patents-Law and Implementation in India” (2013) 18 *Journal of Intellectual Property Rights*, 15-27.

are evolving and important issues relevant to IP and food security in African countries.⁶³³ Yet, despite the significance of traditional knowledge and genetic resources to food security in West Africa, current regional IP agreements do not specifically provide for protection of these areas of knowledge. A model framework for West Africa must include regulations in these areas.

With the exception of the African Model Law, other RTAs applicable to West Africa are TRIPS-plus.⁶³⁴ For example, the standards on the protection of new plant varieties contained in the OAPI Bangui Revised Agreement and ARIPO's Arusha Protocol are based on the standards of the International Union for the Protection of New Varieties of Plants (UPOV) and go beyond TRIPS.

TRIPS-plus RTAs risk undermining the flexibilities granted, and the balance achieved within the TRIPS Agreement between proprietary rights and public interests.⁶³⁵ This will have negative effects for food security in West Africa, as studies indicate that at this stage of economic development, countries in West Africa (especially LDC's) will best support food security by adopting flexible and less stringent IP protection standards.⁶³⁶ Consequently, rather than adopting stronger IP protection in RTAs that erode from TRIPS flexibilities, West Africa's regional IP laws should uphold the principle of balancing of social, economic and cultural interests related to IP protection.⁶³⁷

⁶³³ See Harriet Deacon, "Transboundary Knowledge and Regional Protection in the Protection of Traditional Knowledge in Kenya" (2017) 12:3 *Journal of Intellectual Property Law and Practice*, 226-235.

⁶³⁴ See Articles 3,4,5, & 17.2 AfCFTA; Article 37(A)1 Cotonou Agreement; Article 4 Arusha Protocol; Article 6, Annex X, Revised Bangui Agreement; and Sections 104 & 111 AGOA

⁶³⁵ See Frederick Abbott, "The WTO Medicines Decision: World Pharmaceutical Trade and the Protection of Public Health" (2005) 99 *AJIL* 317, at 349-354 [Abbott, *The WTO Medicines Decision*]; Frederick Abbott, "Toward a New Era of Objective Assessment in the Field of TRIPS and Variable Geometry for the Preservation of Multilateralism" (2005) 8 *JIEL* 77, at 88-97 [Abbott, *Toward a New Era of Objective Assessment*].

⁶³⁶ Mupangavanhu, *The protection of IPRs in the CFTA* *supra* note 602, at 18-19; Syam & Tellez, *supra* note 637, at 57-62.

⁶³⁷ See Peter K. Yu, "Five Decades of Intellectual Property and Global Development" (2016) 8:1 *The WIPO Journal: Analysis of Intellectual Property Issues*, 1 at 6; Mupangavanhu, *The protection of IPRs in the CFTA*, *supra* note 602, at 14-20.

RTAs are commended as providing potential for increased competition, technology transfer and foreign direct investment (FDI) to developing countries.⁶³⁸ However, strategic studies by the UN emphasize that the mere adoption of RTAs is insufficient to foster these positive effects.⁶³⁹ An example is South Africa, where despite having stronger patent protection standards, the country has experienced less FDI and domestic innovation than Asian countries with relatively weaker IP regulations.⁶⁴⁰ To be effective IP regulations must be supported with policies that facilitate development of regional and domestic infrastructure, as well as increasing the productive capacity of local businesses, before they can facilitate sustainable food security in West African countries.

The above RTAs create a proliferation of rules, which may lead to greater uncertainty in the law than under multilateral trading agreements.⁶⁴¹ With three possible organizations (ARIPO, OAPI, and PAIPO) regulating IP in West Africa, technological products and processes in the region will be subject to a multiplicity of requirements. West African IP agreements must address overlaps in sub-regional IP organizations and the proliferation of IP matters in regional trade treaties, to ensure that they do not erode flexibilities important for advancing regional food security goals.⁶⁴² Table 1, below, provides a summative glance of the lack of provisions for food security in plurilateral agreements applicable to West Africa that are relevant to IP and food security in the region.

⁶³⁸ Edwin Mansfield, “Intellectual property Protection, Foreign Direct Investment and Technology Transfer”, *IFD Discussion Paper No. 19*.

⁶³⁹ See United Nations Conference on Trade and Development (UNCTAD), “From Regional Economic Communities to a Continental Free Trade Area: Strategic Tools to Assist Negotiators and Agricultural Policy Design in Africa”, (2018) UNCTAD/WEB/DITC/2017/1, at 21 and 30;

⁶⁴⁰ Keith E. Maskus, “The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment” (1998) 9 *Duke Journal of Comparative and International Law* 109, at 128-129; Alexandar Ward, “The BRICS Wall of Protection: What South Africa’s Patent Protection Policy Means for the Future of Public Health”, *The Yale Global Health Review*, 6th March 2014.

⁶⁴¹ Leal-Arcas, Proliferation of Regional Trade Agreements, *supra* note 448, at 624-625.

⁶⁴² Mupangavanhu, The protection of IPRs in the CFTA, *supra* note 602, at 18.

Table 1. Comparative Analysis of the Level of Adoption of Multilateral Food Security Flexibilities in West Africa's Regional Agreements

		West Africa's Regional and Continental Agreements						
		The Cotonou Agreement	ARIPO's Arusha Protocol	OAPI's Revised Bangui Agreement	The African Model Law	The AGOA	AfCFTA	PAIPO
Provisions Supporting Food security in Multinational Agreements	Provisions for Differentiation	✓	✓	✓	✓	✓	✓	✓
	Overarching social objectives (TRIPS Arts 7 & 8)	X	X	X	✓	X	✓	X
	Balancing of Interests required (TRIPS Art 7)	X	X	X	✓	X	✓	✓
	Exceptions to Patents or PBRs for Public Interest (TRIPS Articles 27.2 & 27.3(b), 30)	X	X	X	✓	X	✓	✓
	Exceptions for Research	X	✓	X	✓	✓	✓	✓
	Compulsory Licensing	X	X	X	✓	X	X	X
	Exhaustion of Rights Regime (TRIPS Article 6)	X	X	X	✓	✓	X	X
	Other Use without Authorization of Patent Holder (TRIPS Article 31)	X	X	X	✓	X	X	X
	State Sovereignty over Genetic Resources (ITPGRFA)	X	X	X	✓	X	✓	X
	Traditional Knowledge Protection (CBD Articles 8(j), 10© & 17(b))	X	X	X	✓	X	✓	X

West Africa's Regional and Continental Agreements								
	The Cotonou Agreement	ARIPO's Arusha Protocol	OAPI's Revised Bangui Agreement	The African Model Law	The AGOA	AfCFTA	PAIPO	
Access and Benefit Sharing and Prior Informed Consent Requirements (Nagoya Protocol Articles 7, 11 & 16,)	X	X	X	✓	X	✓	X	
Protection of Farmers Rights	X	X	X		X	✓	✓	
Places legal obligations for upholding the right to food and sustainable development	X	X	X		X	X	X	
Acknowledges Food Security, Human Rights, or Sustainable Development	✓	✓	✓	✓	✓	✓	✓	

3.8 Conclusion and Key Findings

The above analysis indicates that the protection and advancement of food security in regional IP laws is permissible as part of the public interest objectives of IP agreements, as human rights law, under a special *sui generis* framework, and to fulfill obligations under other multilateral agreements. Room is given under the multilateral IP and trade framework for differential formulation of IP laws and policies, which may go beyond the standards for IP protection enshrined in multilateral treaties like TRIPS, to suit the socio-economic needs of countries at the regional

level.⁶⁴³ Yet, surprisingly the current RTAs affecting West Africa have not utilized this policy space.

The majority of West Africa's current RTAs show the following characteristics: the adoption of greater variations' of IPRs as a means for supporting the agricultural sector; TRIPS-plus provisions regulating the grant of farmers rights and exceptions to PBRs; as well as the granting of PVP to promote research and transfer of technology, thereby increasing productivity and value addition in agriculture. UPOV membership was highlighted as a key factor in maximizing the impact of PVP, while the transition periods made available to LDCs in multilateral laws were overlooked.⁶⁴⁴

These characteristics are in contrast to the norms espoused in the provisions of Article 26 of the African Model Law which highlights enhancing the rights of Users of IP regulated products and owners of genetic resources, through recognizing farmers' rights;⁶⁴⁵ the inalienable and sovereign rights of states and local communities over genetic resources, and traditional knowledge found amongst them;⁶⁴⁶ requiring PIC and ABS for agricultural resources; allowing for open access to and distribution of agricultural knowledge; as well as restrictions to PBRs, as key to advancing food security in Africa. LDCs who are members of the WTO are under no obligation to put in place measures to protect PBRs as required under the WTO-TRIPS Agreement until 1 July 2021. Yet, even the distinction between developing countries and LDCs, by the grant of extended time for adopting IP protection to the latter, have been obliterated in West Africa's RTAs.

⁶⁴³ TRIPS, Article 1.1.

⁶⁴⁴African Ministerial Conference 2015, 'Cluster I Report: Science, Technology and Innovation for the Transformation of African Economies', (5 November 2015) OMPI/PI/DAK/15/REPORT/CLUSTER/I. Online at <http://www.wipo.int/edocs/mdocs/africa/en/ompi_pi_dak_15/ompi_pi_dak_15_report_cluster_i.pdf>.

⁶⁴⁵ African Model Law art 24.

⁶⁴⁶ African Model Law art 14.

Proliferation and fragmentation of laws and institutions is another characteristic of West African RTAs. Ties between Africa's intellectual property organizations (ARIPO and OAPI) and science, technology and innovation policy frameworks at national, regional and continental levels are tenuous, and the two organizations' mandates generally preclude them from helping West African countries to exercise their national sovereignty by utilizing TRIPS flexibilities to protect food security.⁶⁴⁷ RTAs like AGOA give preferences to oil, gas, and petroleum exports, and commercial agricultural exports like cotton and cocoa, rather than to food products. This focus on the needs of western countries, does not encourage local production and food security.

In the absence of substantive provisions, both agreements may be integrated through application of general international law principles and substantive IP laws and policies that incorporate West Africa's development goals, while allowing for differentiation between West Africa states that accommodate their varying socio-economic characteristics, levels of technological development and negotiating histories.⁶⁴⁸

Despite the gaps observed in West Africa's current RTAs, regional agreements involving IP are still viable in the region. The main advantage of regional agreements lies in the ability of countries to legislate on the details, giving directions on issues overlooked in multilateral agreements. Negotiating together as a group gives West African countries more clout than negotiating alone through bilateral agreements.

RTAs are also important as legal and policy instruments by which multilateral agreements can be contextualized, making provisions adaptable and applicable to the unique conditions of a geographical or trade area. As such, regional agreements are characterized by greater

⁶⁴⁷ United Nations Economic Commission for Africa, African Union & African Development Banks Group, *Assessing Regional Integration in Africa VII* (Addis Ababa: Economic Commission for Africa, 2016), at 5.

⁶⁴⁸ *Ibid.*, at 5-6.

differentiation than multilateral agreements. West Africa's regional IP and trade agreements do not harness this room for differentiation, but rather simply adopt pre-existing standards, norms and procedures created for application in more developed countries.⁶⁴⁹ They do not fulfill their differential function. Rather, they simply create repetitive laws and add another layer of procedure, without any effective function. To be effective West Africa's future IP agreements should result from inclusive and transparent negotiation processes and must be balanced in protecting all the interests affected by IP regulation at the regional level. The functionalist approach discussed above provides a theory for justifying such integration. The agreement embodying the functionalist approach is the African Model Law.

Key Findings

- The provisions of West Africa's regional IP and trade related agreements are not absolute, but may be limited by multilateral regulations. Consequently, RTAs may be adjusted when they:
(a) Are no longer effective in fulfilling their overall functions (both social and economic) in the context in which they are granted; (b) Begin to disproportionately affect the human right to food and other ECOSOC rights necessary to achieving the right to food; or (c) Render ineffective the exceptions and limitations to IPRs, along with other flexibilities provided for harnessing IP protection to serve the domestic public interest in food security.
- The level of transparency, equitable participation of parties, and inclusiveness involved in negotiating a treaty greatly influence its nature.⁶⁵⁰ As such in making IP treaty policy and

⁶⁴⁹ Boladale Adebawale *et al*, "Innovation, research and economic development in Africa" (2014), *supra* note 642, at v-vi.

⁶⁵⁰ See Cecilia Albin & Daniel Druckman, "Negotiating Effectively: Justice in International Environmental Negotiations" (2017) 26:1 *Group Decision and Negotiation*, 93-113, at 94; Brendan Coolsaet & John Pitseys, "Fair and Equitable Negotiations? African Influence and the International Access and Benefit-Sharing Regimes" (2015) 15:2 *Global Environmental Politics*, 38-56; Cecilia Albin & Daniel Druckman, "Procedures Matter: Justice and Effectiveness in International Trade Negotiations" (2014) 20:4 *European Journal of International Relations*, 1014-

strategies relevant to advancing food security in West Africa, it is important to examine procedural as well as the substantive provisions of agreements, regarding re-negotiation. Such decisions should be made transparently and inclusively, allowing for the participation of local stakeholders such as smallholder farmers, and traditional knowledge agriculturists.

- Considering the reliance of West African countries on subsistence agriculture as the major source of food security, if the IP regulation does not increase open access among farmers (through free exchanges of and replanting of seeds); protects the rights of local communities to collectively practice traditional knowledge; and requires prior informed consent, equitable benefit sharing of gains made from locally sourced plants and genetic materials; it has not fulfilled its objectives.
- Balancing of all interests is necessary for harnessing IPRs to support agriculture in West Africa. Public interest exceptions could be utilized by countries to maintain closed markets and moderate free trade and competition. Consequently, there is a need to specifically state checks and balances to cover all interests including those of local farmers and traders. Regulations should not be unilaterally adopted by ECOWAS without considering alternative viable options.
- West Africa's current regional framework for IP regulations agreements do not make maximum utilization of TRIPS and TRIPS-plus flexibilities, but grant greater protection to IPRs, thereby derogating from the flexibilities of the multilateral system. Food Security is provided mostly in Non-IP treaties like the AU Model Law and the WIPO Development Agenda. To advance food security in West Africa, regional IP laws must specifically provide for food security through rights, exceptions and limitations to IPRs, and *sui generis* regulations.

1042; Kai Monheim, *How Effective Negotiation Management Promotes Multilateral Cooperation: the power of process in Climate, Trade and Biosafety Negotiations* (London: Routledge, 2015) at 178-198.

- As agriculture in the majority of African countries is still largely subsistence, to be relevant, agricultural technologies should focus on local crops and be developed in negotiation with domestic farmers. Protecting local farmers' rights plays an important role in harnessing IP to advance food security.
- A wealth of genetic resources and traditional knowledge is available in relation to major food crops in the region like cassava and yam. This knowledge will not fulfil the conditions for patents under formal patenting systems. However, such resources may be harnessed by developing alternative IP policies that recognize informal innovations, provide for prior informed consent, and access and benefit sharing agreements with domestic farmers and local communities. Provisions exist in multilateral regulation that allows countries policy space to adopt such provisions.
- IPRs are not absolute rights. Rather IP protection is built on an instrumentalist system where IPR are granted to advance specific objectives including increased invention, trade and sustainable development. Attaining these objectives requires IPRs to be balanced with obligations relating to public interests and fundamental rights relevant to food security, contained in agreements such as the CBD, ITPGRFA, and relevant regional and bilateral free trade agreements.
- IP law contains exceptions and limitations to patents and plant breeders' rights that allow for protection of food security as part of the overriding objectives of IP protection. These provisions, along with human rights such as the right to food, must be considered in the interpretation of regional IP regulations.
- Regional organizations like ECOWAS should measure the value of a patent in proportion to its 'blocking value'. To what extent does it constrain the transfer of needed technology through

opportunities for utilizing and contributing to digital agriculture? Only those applications that pass this 'test' should be granted patentability.

CHAPTER 4: The EU-ECOWAS EPA and Food Security in West Africa

Having shown in the previous chapter the deficiency of current continental and regional IP, trade and other relevant agreements for supporting food security in West Africa, this chapter examines the provisions of a specific regional West African agreement, namely the 2014 Economic Partnership Agreement (EPA) between the European Union (EU) and The Economic Community of West African States (ECOWAS), so as to identify what implications the EPA may have for advancing food security in the region.

Analysis is carried out in the following steps: Firstly, the background to the formation of the EPA and the characteristics of the two participating regions (Europe and ECOWAS) are reviewed, so as to understand the socio-economic and political context in which the EPA is applied and the issues arising from its execution. Secondly, legal doctrinal examination is conducted of the IP related provisions in the agreement, to determine the nature and scope of protection provided for IPRs and how they may affect the implementation of other rights and interests relevant to food security in West Africa. Thirdly, doctrinal assessment is made of the objectives, principles, procedural and substantive provisions of the EU-ECOWAS EPA relevant to food security, to see the extent to which they allow for utilization of the differential principle, along with other exceptions and limitations to IPRs that are important for enhancing food security in West Africa. Fourthly, the relationship between the EPA and other multilateral agreements is examined, to determine the agreements place in the global IP system. Finally, a critical analysis is carried out to determine the prospective implications of the EPA for food security in West Africa.

4.1 Background

This segment details the background in which the negotiations for the EPA took place. It is necessary to highlight that context as it uncovers fundamental discrepancies in the economic and bargaining power between ECOWAS and more developed regions like the EU, which influenced the formulation of EPA's provisions.

Established on 28 May 1975, through the signing of the Treaty of Lagos⁶⁵¹, The Economic Community of West African States (ECOWAS) is a regional economic union made up of fifteen countries located in West Africa. A revised version of the treaty, signed on 24 July 1993 in Cotonou,⁶⁵² states that:

The aims of the Community are to promote cooperation and integration, leading to the establishment of an economic union in West Africa *in order to raise the living standards of its peoples*, and to maintain and enhance economic stability, foster relations among Member States and contribute to the progress and development of the African Continent.⁶⁵³

These goals are to be achieved by fostering the harmonization and coordination of national policies and the promotion of regional integration programmes, projects and activities, particularly relating to food, agriculture and natural resources.⁶⁵⁴

Among the 15-member countries of ECOWAS,⁶⁵⁵ eleven are classified by the UN as least developed countries;⁶⁵⁶ and four (Ivory Coast, Ghana, Cape Verde and Nigeria) as developing

⁶⁵¹ *Treaty of the Economic Community of West African States (ECOWAS)*, Lagos, 28th May 1975, UN registered treaty no.14843.

⁶⁵² *Revised Treaty of the Economic Community of West African States*, Cotonou, 24 July 1993 [ECOWAS Revised Treaty].

⁶⁵³ Article 3.1, ECOWAS Revised Treaty [Emphasis added].

⁶⁵⁴ ECOWAS Revised Treaty, Article 3.2.

⁶⁵⁵ The founding members of ECOWAS were: Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania (left 2002), Niger, Nigeria, Senegal, Sierra Leone, Togo, and Burkina Faso (which joined as Upper Volta). Cape Verde joined in 1977.

⁶⁵⁶ Namely Benin, Burkina Faso, The Gambia, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Senegal, Sierra Leone and Togo.

countries. The West Africa Economic and Monetary Union (WAEMU)⁶⁵⁷ is a subset of ECOWAS which groups together 7 Francophone countries (Benin, Burkina, Ivory Coast, Mali, Niger, Senegal, Togo) plus Guinea Bissau that share the West African *Communauté financière d'Afrique*⁶⁵⁸ (CFA) franc, a currency guaranteed by the French treasury.⁶⁵⁹

In spite of the above categorizations, West African countries have a lot in common in the area of agriculture. Agriculture is the largest economic sector in West Africa and remains the best opportunity for economic growth and poverty alleviation in the region, contributing about 17% to the Gross Domestic Product (GDP) and 40% to exports, as well as creating employment.⁶⁶⁰ The agricultural sector has been described in a World Bank study as the engine for economic growth and improved livelihoods in Africa.⁶⁶¹

West African agriculture is largely traditional and practiced by smallholders and pastoralists. It is predominantly rain-fed and low-yielding. Small-scale agriculture and the harvesting of natural resources provide livelihoods for the majority of the population in West Africa.⁶⁶² Most of the smallholders concentrate on subsistence farming, with low yields and relatively low excess production volumes available for large-scale trading.⁶⁶³ This has resulted in large imports into many African countries, low food security levels and limited expendable income to rural households.

Despite large amounts of development funds having been donated to West Africa by a number of developed countries and development agencies, there is no sustained agricultural

⁶⁵⁷ Also known by the French acronym UEMOA.

⁶⁵⁸ Interpreted in English as “Financial Community of Africa.”

⁶⁵⁹ Jacques Berthelot, “The West Africa-EU Economic Partnership Agreement is Absurd”, *SOL*, 15th May 2016, at 3.

⁶⁶⁰ The World Bank, African Development Bank & African Union, *ETransform Africa: Agriculture Sector Study-Sector Assessment and Opportunities for ICT*, 4th February 2012, at 16 [ETransform Africa 2012].

⁶⁶¹ *Ibid.*

⁶⁶² OECD & FAO, *Agricultural Outlook 2016-2025* (Paris: OECD Publishing, 2016) at 64-67.

⁶⁶³ ETransform Africa 2012, at 17.

production and poverty reduction in the region.⁶⁶⁴ With its burgeoning population, coupled with an agricultural sector that remains mainly subsistent, attaining food security remains a major challenge in the ECOWAS region.

ECOWAS countries are highly dependent on the European market, largely due to their historical links. Most countries in West Africa are former British and French colonies. The 28 countries of the EU are West Africa's major trading partners, accounting in the 2010s for nearly 35% of the total exports of the region and for more than 22% of imports.⁶⁶⁵ On the other hand, imports from West African countries remains of modest economic importance for the EU, accounting for very little in terms of trade.⁶⁶⁶ The ECOWAS region alone accounts for half of total EU imports by ACP countries. This makes any trade deal to have greater impact on the economies of ECOWAS states than EU member states.

Although agricultural conditions vary widely across ECOWAS countries, many share worrisome characteristics and trends such as high production variability, relatively low yields, and dependency on primary exports with low income elasticity and high price volatility. This means that as global agriculture markets become further integrated, the ECOWAS region's agriculture risks becoming uncompetitive and marginalized.⁶⁶⁷ The lack of complementarities in the economies of West African countries is one reason for the low level of intra-regional trade in the region, the lowest in the continent. In the agricultural sector a lot of trade takes place informally.

⁶⁶⁴ Dambisa Moyo, *Dead Aid: Why Aid is not Working and how there is Another Way for Africa* (London: Allen Lane, 2009).

⁶⁶⁵ Małgorzata Czermińska & Joanna Garlińska-Bielawska, "European Union-West Africa Trade Relations: With or Without Economic Partnership Agreement (EPA)" (2017) 17.2 *Annals of the Administration and Law*, 103 at 112.

⁶⁶⁶ Lionel Fontagne, Cristina Mitaritonna & David Laborde, "An Impact Study of the EU-ACP Economic Partnership Agreements (EPAs) in the Six ACP Regions", in Commission of the EU-Director General for Trade, *Final Report January 2008* (Paris: CEPII-CIREM, 2007), at 4 and 26.

⁶⁶⁷ Suffyan Koroma & J.R. Deep Ford, eds., "The Agricultural Dimension of the ACP-EU Economic Partnership Agreements", FAO Commodities and Trade Technical Paper no.8 (Rome: FAO, 2006) at 4.

The EPA was negotiated between the EU and its member states on one part, and between 16 West African states, ECOWAS, and the WAEMU on the other part. However, the negotiating structure of the West Africa–EU EPA has been criticized for being dominated by the regional secretariat without space for national-level participation.⁶⁶⁸ For example, the structure was headed by a Team of Chief Negotiators, which was led by the ECOWAS Executive Secretary and assisted by the President of the WAEMU Commission. Below this was the Senior Officials’ Team, which was led by the ECOWAS Deputy Executive Secretary for Policy Harmonization and assisted by the WAEMU Commissioner for Tax, Customs and Trade Policy. Finally, the structure was completed by the Team of Technical Experts, largely made up of Directors of Trade of the ECOWAS Commission and the WAEMU Commission.

The above arrangement makes no provision for an independent national body to act as a medium through which national negotiating interests can be canvassed and corresponding positions articulated. The absence of this national-level body may have denied important stakeholders in West African countries, especially smallholder farmers, the opportunity of participating in and influencing the EPA negotiating process.⁶⁶⁹

The EPA negotiations took place between two political groups of vastly unequal power. In this segment, power is defined as the generalized capacity of countries to influence political processes, in order to attain goals in social relations, independently of the method employed or the legitimacy of authorization for decision making or to impose obligations.⁶⁷⁰ Under this definition various forms of influence, finances and coercion will be viewed as forms of power.

⁶⁶⁸ Chibuzo Nwoke, “EU-ECOWAS Economic Partnership Agreement: Nigeria’s Role in Securing Development Focus and Regional Integration”, 2009 African Economic Conference, Addis Ababa, Ethiopia, 11-13 November 2009, at 5.

⁶⁶⁹ *Ibid*, at 4.

⁶⁷⁰ Talcott Parsons, “On the Concept of Power” (1963) 107:3 *Proceedings of the American Philosophical Society*, 232 at 232-233.

While in theory, the member countries of the EU and ECOWAS are sovereign states, and both organizations represent equal partners, in reality, the parties differ greatly in economic independence, technological advancement, skills for negotiating, level of competitiveness in global markets, and financial stability, factors which determine political negotiating power. Recent studies reveal that power in negotiations between the EU and ECOWAS conform to elite theories with power being concentrated in the hands of a few wealthy countries and institutions that exert inordinate influence on governments and shape its decisions to benefit their own interests.⁶⁷¹ African countries are less empowered.⁶⁷²

The EU is a formidable power in trade. Structurally, the sheer size of its market and its more than forty-year experience of negotiating international trade agreements have made it perhaps the most powerful trading bloc in the world. Furthermore, the EU often uses market access as a bargaining chip to obtain changes in the domestic arena of its trading partners, from labour standards to development policies, and in the international arena, from global governance to foreign policy.⁶⁷³

Contemporary IP protection rules are complex and their implementation through dispute settlement systems is costly. Consequently, the mere threat of a European anti-dumping action, for instance, is enough to discourage African country exporters without the wherewithal to launch a legal defense. Similarly, when European countries breach the agreed rules at the expense of the

⁶⁷¹ Steve E. Barkan, *Sociology: Comprehensive Edition*, section (Unnamed Publisher, 2012), online: <<https://2012books.lardbucket.org/books/sociology-comprehensive-edition/s17-03-theories-of-power-and-society.html>>.

⁶⁷² Gerald Helleiner, "Markets, Politics and Globalization: Can the Global Economy be Civilized?" (2000) 1 *CIS Working Paper*, at 4-8 & 12-14 [Helleiner, *Markets, Politics and Globalization*].

⁶⁷³ Sophie Meunier & Kalypso Nicolaidis, "The European Union as a Conflicted Trade Power" (2006) 13;6 *Journal of European Public Policy*, 906-925.

small and poor, the cost of a legal challenge may exceed the financial capacities of ECOWAS states (or, in some cases, even the relevant trade losses).⁶⁷⁴

EPA has been described as a ‘partnership’ between donors and debtors, between benefactors and consistent dependencies and between former colonial empires and their former colonies.⁶⁷⁵ It pits the European Union (a group of the world’s most advanced economies) against ECOWAS (a group of 15 poorer monocultural and raw material-exporting economies, consisting of 11 LDCs and 4 developing countries).⁶⁷⁶ This gave the EU considerable advantage in dictating the terms of the EPA.

Based on the Cotonou Agreement, the EPA represents one of the EU’s most recent attempts to re-structure its trade relations with West African countries, so as to do away with non-reciprocal trade agreements that do not comply with the rules of the World Trade Organization (WTO). Another reason given by the EU to justify the adoption of a reciprocal approach in the EPA was the fact that past trade preferences given to African countries had not resulted in positive economic growth or development in the continent.⁶⁷⁷ According to the European Commission:

Past ACP-EC trade cooperation, which has primarily been built on non-reciprocal trade preferences, has not delivered the results expected. Although it has granted duty free access for nearly all products, it has not prevented the increasing marginalisation of the ACP in world trade. Therefore, a more comprehensive approach is needed and Economic Partnership Agreements are an instrument to achieve these objectives by removing progressively all barriers to trade between the EU and the ACP EPA groupings and enhancing co-operation in all areas relevant to trade.⁶⁷⁸

⁶⁷⁴ Helleiner, *Markets, Politics and Globalization*, *supra* note 685, at 14.

⁶⁷⁵ Chibuzo N. Nwoke, “Nigeria and the Challenge of the EPA” (2008) 7:9 *Trade Negotiations Insights* [Nwoke, Nigeria and the Challenge of the EPA].

⁶⁷⁶ *Ibid.*

⁶⁷⁷ EU Commission, “Sustainability Impact Assessment of the EU-ACP Economic Partnership Agreements” Position Paper, 16th November 2007, at 2-3.

⁶⁷⁸ Berthelot, *The West Africa-EU Economic Partnership Agreement is Absurd*, *supra* note 672, at 2.

The EU's call for a "comprehensive approach" is important in harnessing IP agreements to advance national development. However, the instruments suggested in the above quotation are limited to removing barriers to trade. A comprehensive approach should include instruments that protect public interests that are affected by trade. An example of such a holistic approach is the Doha Declaration on TRIPS and public health.

The EU-ECOWAS EPA is one of seven other EPAs negotiated by the EU with the goal of hastening the adoption of WTO conforming and TRIPS-plus measures by other poorer economic regions. In the words of a former Trade Commissioner for Europe:

Alongside our commitment to the WTO we have, through bilateral negotiations, sought to remove trade barriers behind borders... Building on the WTO, our aim will be to go beyond what can be achieved at the global level by seeking deeper reductions in tariffs; by tackling non-tariff barriers to trade; and by covering issues which are not yet ready for multilateral discussion, such as rules for competition or investment.⁶⁷⁹

On 10th July 2014 in Accra, the West African Heads of State confirmed the formation of the regional EPA by their chief negotiators on 30 June in Ouagadougou and the EU Council of Foreign Ministers authorized the signature on December 12, 2014, subject to its conclusion. The EPA requires signing by all the sixteen West African countries before it can be ratified. So far fifteen countries have signed the agreement, the most recent being Gambia⁶⁸⁰ and Mauritania⁶⁸¹ who signed the EPA in 2018. However, the EPA has faced challenges, the most notable being the refusal of Nigeria, West Africa's largest economy and most populous country, to sign the

⁶⁷⁹ Peter Mandelson, *Global Europe: competing in the World*, European Commission, 4 October 2006, online: <http://ec.europa.eu/commission_barroso/mandelson/speeches_articles/sppm117_en.htm> ; See also Cecilia Malmström, *Trade for all. Towards a more responsible trade and investment policy*, June 2015, online: <http://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153846.pdf>.

⁶⁸⁰ European Commission News, "The Gambia signs the region-to-region Economic Partnership Agreement between West Africa and the EU, Brussels, 9th August 2018.

⁶⁸¹ European Commission News, "Trade: Mauritania signs the regional Economic Partnership Agreement between West Africa and the EU, Brussels, 21st September 2018.

agreement as at the end of 2018.⁶⁸² Once signed by Nigeria, the EPA will be submitted for ratification by both sides.

4.2 EPA Provisions on Intellectual Property Protection

While IP is explicitly part of the future negotiation agenda under Article 106, it is important to assess the current provisions of the EU-ECOWAS EPA, before new provisions are entrenched. Admittedly, apart from provisions for geographical indications, the EPA does not yet regulate in detail other forms of IP protection. The provisions of the EPA relevant to IP can, however, generally be divided into three categories: (i) those that could be interpreted to refer to IP; (ii) those that transplant provisions from other IP related treaties into the EPA and establish the relationship between the EPA and other treaties; and (iii) those that regulate subjects covered by IP protection (such as innovations, plants and genetic resources derived from agriculture). This makes the EPA relevant as an agreement likely to influence IP regulation and affect food security in West Africa. The three categories of IP related provisions in the EPA are examined below, so as to determine what implications they may have for food security in the West African region.

4.2.1 EPA Provisions Referring to IP

Article 87 of the EPA grants a general exception in the following language:

Subject to the requirement that such measures are not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination between the Parties where like conditions prevail, or a disguised restriction on trade in goods or services or on establishment, *nothing in this Agreement shall be construed to prevent the adoption or application by either Party of measures:* (b) necessary to protect the life or health of humans, animals or plants; (c) *necessary to secure compliance with laws*

⁶⁸² Jose Luis Gutierrez Aranda, “Particularities of the ECOWAS-EU Economic Partnership Agreement”, *Africa Europe Faith and Justice Network* (AEFJN), 8th March 2017.

or regulations that are not inconsistent with the provisions of this Agreement including those relating to: *the protection of intellectual property rights*.⁶⁸³

Article 87(b) offers an opportunity for ECOWAS states to adopt exceptions for food security, as being part of the conditions necessary to maintain life or health. However, the effectiveness of this exception will be hindered by the fact that such measures are subject to the condition that they should not cause a restriction in trade. This gives preference to trade liberalization above social and environmental issues that are important for food security in West Africa. Yet, it can be argued that achieving the food security objective will sometimes necessitate interference with trade. For example, distributing to farmers patented, or plant variety protected, seeds which could better adapt to the changing climate in order to ensure local production and food security, generally conflicts with the exclusivity conferred by the patent or plant breeder rights. The importance of such flexibility is demonstrated in the 2019 ruling by a court in the Netherlands revoking two Dutch patents for processing teff, a type of grain that has been used for thousands of years to make injera, the fermented pancake that forms a staple part of Ethiopian meals, as null and void. Ethiopia had argued that the granting of the patents to foreign companies, that refused to equitably share the benefits from the patents with the source country, amounted to biopiracy, would be a risk to food security in the country and go against its cultural heritage.⁶⁸⁴ While, the court's decision was not based on food security, it demonstrates that sometimes it will be necessary to interrupt trade (in this case by the Dutch company whose patents were nullified) so as to advance food security.

Technically, the provision does not refer to international treaties but merely to “laws and regulations”. Similar wording was interpreted by the WTO Appellate Body as referring to

⁶⁸³ EPA, Article 87.c(v) [Emphasis added].

⁶⁸⁴ Kluwer Patent Blogger, “Teff Patents Declared Invalid, ‘Great News’ for Ethiopia”, *Kluwer Patent Blog*, 12 February 2019. Online at: < <http://patentblog.kluweriplaw.com/2019/02/12/teff-patents-declared-invalid-great-news-for-ethiopia/>>.

domestic rather than international rules in *Mexico-soft drinks*. While the wording at issue in that case is similar, it is not identical. It is not clear therefore whether the language of Article 87.c(v) does, or does not, cover multilateral IP treaties.

The use of the compulsory legal word “shall” in Article 87.c (v) of the EPA makes fulfilment of the standards and terms for IP protection contained in relevant multilateral agreements obligatory in West African countries. In addition, the provision requires that IP protection in ECOWAS states should uphold the non-discrimination principle and not serve to restrict trade. Hence, the EPA requires ECOWAS and EU countries to ensure adequate and effective implementation of all multilateral and bilateral treaties relating to IP protection to which they are parties.

Article 87.c (v) of the EPA also deals with the issue of interpretation, as EPA’s provisions may not be construed to obstruct the implementation of states commitments to IP protection in other agreements. The provision emphasizes the protection of IP regulations for the sake of adherence to rules. This contrasts with the approach to IP protection in the TRIPS agreement which stresses on the underlying public policy considerations that IPRs are to achieve. For example, the Preamble of the WTO-TRIPS Agreement while acknowledging the importance of IPRs as private rights also highlights the significance of “underlying public policy objectives of national systems for the protection of intellectual property, including developmental and technological objectives.” This view of IP protection as being primarily an instrument for advancing public interest purposes is reinforced in the Articles 7 and 8 of the TRIPS agreement.

In Article 7 TRIPS (entitled “Objectives”), the WTO countries agree that IP protection and enforcement should promote societal goals such as innovation and technology transfer, in a manner: that is mutually advantageous to both the “producers and users” of technological

knowledge; which contributes to advancing social, as well as economic welfare; and that balances relevant rights and obligations. TRIPS Article 8 (entitled “Principles”), allows WTO members to adopt measures for the protection of public health and nutrition, and other public interests, and to prevent the abuse of IPRs by holders.

TRIPS Articles 7 & 8 posits against the protection of IPRs mainly to uphold the *status quo ante* espoused in Article 87.c (v) of the EPA. The latter approach adopted in the EPA will reduce the ability of ECOWAS states to flexibly interpret IP regulations so as to accommodate national public interests like food security.

For West African countries, Article 87.c (v) of the EPA would significantly reduce room for differentiation, because the majority of ECOWAS countries are already signatories to regional and continental agreements which contain more stringent standards for IP protection than the WTO TRIPS Agreement. Four ECOWAS countries are members of the African Regional Intellectual Property Organization (ARIPO);⁶⁸⁵ eight are parties to the African Intellectual Property organization (OAPI)⁶⁸⁶; and all ECOWAS states are members of the African Union which has established the Pan African Intellectual Property Organization (PAIPO).⁶⁸⁷ As at July, 2019, all ECOWAS states, apart from Gambia, are eligible to receive benefits under the African Growth and Opportunities Act (AGOA).⁶⁸⁸ All these agreements adopt systems for plant variety protection that are compatible with the UPOV standards for IP protection, which are TRIPS-plus.⁶⁸⁹

⁶⁸⁵ Gambia, Ghana, Sierra Leone and Liberia.

⁶⁸⁶ This is the English translation for the French name ‘*Organisation Africaine pour la Propriété Intellectuelle*’ [OAPI].

⁶⁸⁷ African Union, *Statute of the Pan African Intellectual Property Organisation*, Extraordinary Session of the African Ministerial Conference on Science and Technology (AMCOST), 15–18 April, 2014, Brazzaville, The Republic of Congo, Doc No AU/MIN/CONF V/ST/2 (II) EN, EX-CI/839/Annex 3, Art 2 [PAIPO Statute].

⁶⁸⁸ US *Trade and Development Act*, 2000; P.L. 106-200 [AGOA].; “AGOA Country Eligibility”, *AGOA.Info*, (2019), online: <<https://agoa.info/about-agoa/country-eligibility.html>>.

⁶⁸⁹ For detailed analysis of TRIPS-plus provisions in these agreements, please read the third chapter of this thesis.

Some may view the EPA as a bilateral agreement between ECOWAS and the EU. However, such an approach doesn't acknowledge that an economic community is a collection of states. If asked to point out ECOWAS on the map, it does not exist. Since the provisions of the treaties will apply to individual countries, it would be more realistic to view it as a collective agreement between a multitude of states through their economic communities. This thesis adopts the latter approach and views the EPA as an agreement between states in West Africa and Europe through their regional bodies. This is evidenced by the fact that such agreements still have to be ratified by individual countries within the union before they can apply.

In light of the MFN and NT principles adopted in Articles 16.3 and 35.2 of the EPA, the agreement will require countries that are signatories to bilateral treaties modeled after the UPOV to apply TRIPS plus standards in interaction with all other ECOWAS states. While international law requires a level of consistency between rules, simply conforming to previous rules reduces the flexibility for countries to apply differentiation necessary to ensure that IP regulations adapt to changing circumstances and advance public interests like food security.

Furthermore, the obligation that the EPA "shall" not be interpreted so as to prevent the application of measures necessary to secure compliance with laws or regulations for the protection of IPRs narrows the scope for interpreting IP regulation in a holistic manner. This indicates a step back from the more holistic interpretation of IP norms and regulations reflected in the Doha Declaration, to an attempt to consider IP protection in exclusion from other related agreements and interests. No mention is made of the protection of other rights affected by IP protection identified in other agreements such as the Doha Declaration, Human rights, the CBD and the ITPGRFA. The latter laws emphasize the need for balancing of interests in utilizing IP law to advance public

interest, by providing for access and benefit sharing, prior informed consent, and the right to food in IP regulations.

Under Article 106 of the EPA:

1. The Parties agree to continue negotiations in order to arrive at a full regional Agreement.
2. Without prejudice to the following topics and without prejudging the results of these negotiations, the Parties mutually undertake to enter into discussions concerning:
 - (b) intellectual property and innovation, including traditional knowledge and genetic resources;
3. For the purposes referred to in paragraph 1 of this Article, within six (6) months of the conclusion of this Agreement, the Parties shall reach agreement on a roadmap setting out the schedule and arrangements for these negotiations.

Article 106 of the EPA indicates that IPRs, innovation, traditional knowledge and genetic resources will form a part of future EPAs. This makes it important for ECOWAS states to pre-determine what IP frameworks will best support their interests in the relevant sectors.

4.2.2 EPA Provisions on Previous IP and Trade Treaties

Nothing in the EPA shall be construed to prevent compliance with IP regulations. The agreements specifically referred to as being binding on parties to the EPA are the WTO Agreements and the Cotonou Agreement. Article 105 of the EPA states that:

1. Nothing in this Agreement may be interpreted as preventing the taking by the European Union Party or any of the West African States of any measure deemed appropriate concerning this Agreement in accordance with the relevant provisions of the Cotonou Agreement.
2. The Parties agree that nothing in this Agreement requires them to act in a manner inconsistent with their obligations in connection with the WTO.

According to Article 30.2 of the Vienna Convention “When a treaty specifies that it is subject to, or that it is not to be considered as incompatible with, an earlier or later treaty, the provisions of that other treaty prevail.”⁶⁹⁰ Hence, Article 105 the EPA seems to place further restrictions on the regional authority of ECOWAS and West African states in regard to the Cotonou and WTO Agreement, by subjecting itself to the latter regulations.

(a) EPA and IPRs in the WTO Agreements

The WTO Agreements consists of several multilateral agreements, established following the Uruguay round of negotiations that apply to all WTO members. The most relevant WTO agreements for the purpose of this analysis are the TRIPS Agreement⁶⁹¹ and the GATT.⁶⁹² The WTO Agreements are structured, for the purpose of introducing market economy principles into international trade, on the basis of the two ideals: (1) reducing trade barriers, and (2) applying non-discriminatory rules.

TRIPS approach to IP requires all WTO members to adopt minimum standards of IP protection, and allows countries to go beyond, but not below, that level. TRIPS views IP as property rights necessary for increased trade and development. TRIPS adopts the “one size fits all” and the “higher the better” approaches to IP protection.⁶⁹³ However, the TRIPS agreement also recognizes that IPRs are not absolute rights, but rights granted to serve the public interest. Thus, TRIPS allows exceptions and limitations to IPR, as well as flexibilities for states in their

⁶⁹⁰ UN, *Vienna Convention on the Law of Treaties*, Vienna, 23 May 1969, Appendix 12, Article 30.2.

⁶⁹¹ WTO, *Agreement on Trade Related Aspects of Intellectual Property Rights*, (1994), Annex 1C of the Marrakesh Agreement Establishing the WTO, April 15 1994[TRIPS].

⁶⁹² General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187, 33 I.L.M. 1153 (1994) [hereinafter GATT 1994].

⁶⁹³ Daniel Gervais, “TRIPS and Development”, in Mathew David & Debora Halbert (eds), *The SAGE Handbook of Intellectual Property* (Los Angeles: SAGE, 2015) at 90.

frameworks for PVP, based on public interests such as the need to protect public health and nutrition.

The provisions of Article 105.2 of the EPA indicate that the agreement's provisions may not be interpreted in a manner that is inconsistent with the principles and provisions of the WTO Agreements, or that would hinder the implementation of WTO Agreements. However, because Article 87.c (v) of the EPA requires the adoption of all IP agreements, including the UPOV, EPA allows for the application of standards and requirements that go beyond those stated in the WTO Agreements. For example, the EPA requires faster adoption of international IP and trade standards by West African states. The twenty year or longer period granted under TRIPS is cut down to 5 years maximum for West African countries, including LDCs to conform to TRIPS standards.⁶⁹⁴ Aside from being costly, such conformity does not guarantee increased food security in West Africa.

Yet, international law relating to interpretation of treaties, gives a broader basis for interpreting agreements. Specifically, Article 31.1 of the VCLT states that "A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose." The VCLT makes the objects and purpose of an agreement, along with subsequent agreements, practices and rules of international law relevant for interpreting a treaty.⁶⁹⁵ Subsequent practices in IP law that advance public interest objectives, such as the introduction of a development objective for IP agreements, may be inconsistent with the WTO goal of not interrupting the flow of trade. Thus, requiring ECOWAS countries not to act in a manner inconsistent with WTO obligations greatly advances the use of IP flexibilities in West African countries.

⁶⁹⁴ EPA, Article 44.2.

⁶⁹⁵ VCLT, Article 31.2 [VCLT].

It is also important to note that in international law where there is a conflict between rules, the more specific rules will take precedence over more ambiguous rules (*lex specialis*); or the more recent of the conflicting obligations prevails over the older one (*lex posterior*). The EPA adopts WTO standards relating to NT,⁶⁹⁶ MFN,⁶⁹⁷ anti-dumping,⁶⁹⁸ safeguards,⁶⁹⁹ SPS⁷⁰⁰, TBT⁷⁰¹, and sustainable development measures in language that simply refers to the relevant WTO Agreement, without providing details. For example, regarding Anti-dumping and countervailing duties, Article 20 of the EPA makes the following requirements:

1. None of the provisions of this Agreement shall prevent the European Union or the States of the West Africa Party from individually or collectively taking anti-dumping or countervailing measures under the relevant WTO Agreements, in particular the Agreement on Implementation of Article VI of the GATT 1994 and the Agreement on Subsidies and Countervailing Measures which figure in Annex 1A to the Agreement establishing the WTO.
2. For the purposes of applying this Article, origin shall be determined according to the non-preferential rules of origin of the Parties on the basis of the Agreement on Rules of Origin which figure in Annex 1A to the Agreement establishing the WTO (hereinafter, the “WTO Agreement on Rules of Origin”).

This vaguer language of the EPA is likely to carry less weight in legal interpretation than the more detailed provisions found in the WTO Agreements. Also, because such transplantation of laws often leaves out the corresponding limits of IP protection and other checks and balances operating in the law of the transplanting country or institution, they are likely to prove unworkable

⁶⁹⁶ EPA, Article 35.2.

⁶⁹⁷ EPA, Article 16.3.

⁶⁹⁸ EPA, Article 20.

⁶⁹⁹ EPA, Article 22.

⁷⁰⁰ EPA, Article 25.

⁷⁰¹ EPA, Article 26.

within a short time in the receiving countries.⁷⁰² This approach is not considered beneficial for advancing food security in African countries.⁷⁰³

Though there is no established hierarchy between agreements made under the WTO and those created under other organizations like the WIPO-UPOV, the UN-CBD, and the AU's African Model Law,⁷⁰⁴ Article 105 of the EPA seems to create a hierarchy by requiring conformity with WTO provisions. The EPA focuses on retaining norms of previous IP agreements, thus restricting its ability to question the suitability of such provisions for supporting innovation and public interest in the context of West Africa. This 'no questions asked' approach of EPA to IPRs in the WTO-TRIPS Agreement requires the adoption of WTO standards for IP protection, without allowing for further development of differentiating exceptions and limitations to IP protection granted under Articles 7-8 TRIPS.

However, questioning of previous IP regimes is necessary for drawing up a framework for IP protection to advance food security in West Africa. It should not be presumed that TRIPS-plus IP standards and laws, which were mainly drawn up by developed countries for their industrialized economies, would be suitable for lesser developed West African economies based on smallholder agriculture.⁷⁰⁵

⁷⁰² Ruse-Khan, The Protection of IP in International Law, *supra* note 234, at 9.

⁷⁰³ Third World Network, "ARIPO Sells Out African Farmers, Seals Secret Deal on Plant Variety Protection", Statement Issued by the Alliance for Food Sovereignty in Africa (AFSA), *TWN Info Service on IP Issues*, 10th July 2015; Hans Morten Haugen, "Inappropriate Processes and Unbalanced Outcomes: Plant Variety Protection in Africa Goes Beyond UPOV 1991 Requirements" (2015) 18:5 *Journal of World Intellectual Property*, 196.

⁷⁰⁴ German Govt doc, at 49; and Article 41, VCLT.

⁷⁰⁵ FAO, "The Agricultural Dimension of the ACP-EU Economic Partnership Agreements" (2006) 8 FAO Commodities and Trade Technical Paper, at 37.

(b) EPA and IPRs in the Cotonou Agreement

Article 2.1 of the EPA indicates that it is based on the principles and essential points of the Cotonou Agreement. EPA is to complement and not to depart from the latter agreement. Article 46 of the *Cotonou Agreement* affirms the applicability of IPRs in ACP states (of which West African states form a part). Specifically, Article 46.1 of the Cotonou Agreement obligates parties to:

recognise the need to ensure an adequate and effective level of protection of intellectual, industrial and commercial property rights, and other rights covered by TRIPS including protection of geographical indications, in line with the international standards with a view to reducing distortions and impediments to bilateral trade.

The goal of IP protection specified in Article 46 of the Cotonou Agreement is to make multilateral trade more expedient. In achieving this goal, the agreement considers it necessary to advance the levels of IP protection in African countries to be at par with the levels obligated under the TRIPS agreement and other international standards.

Accordingly, the provisions of the Cotonou agreement reflect the desire to create a platform for the expansion of IP protection through various multilateral and regional agreements. Thus, in Article 46.3 parties “agree on the need to accede to all relevant international conventions on intellectual, industrial and commercial property.” Further, Article 46.4 of the *Cotonou Agreement*, gives the EU and the ACP countries the option of considering the conclusion of new agreements aimed at protecting trademarks and geographical indications for products of particular interest of either Party.

Similarly, the EU’s determination to “deepen” cooperation with African countries on IPRs and related issues through the EPAs, requires the establishment of harmonized regulations and institutions for the protection of enforcement of IPRs in Africa. Article 46(6) of the *Cotonou Agreement* mandates that this kind of broad cooperation in the following terms:

The Parties further agree to strengthen their cooperation in this field (of IPRs). Upon request and on mutually agreed terms and conditions cooperation shall inter alia extend to the following areas: the preparation of laws and regulations for the protection and enforcement of intellectual property rights, the prevention of the abuse of such rights by right-holders and the infringement of such rights by competitors, the establishment and reinforcement of domestic and regional offices and other agencies including support for regional intellectual property organizations involved in enforcement and protection, including the training of personnel.

The EU Commission has construed the provisions of article 46 of the Cotonou agreement to mean that ECOWAS countries can only adopt higher, but not lower, levels of IP protection.⁷⁰⁶ This position is confirmed by the European Commission's comments in its report titled "Global Europe: Competing in the World". Part iii of Section 3.2 of the EU report relates to "Opening Markets Abroad". It states that the EU "will require a sharper focus on market opening and stronger rules in new trade areas of economic importance to us, notably IP..." Similarly, Part ii of Section 4.2 relating to "Free Trade Agreements" states that, "FTAs should include stronger provisions for IPR and competition, including for example provisions on enforcement of IP rights along the lines of the EC Enforcement Directive." This limits the policy space for West African countries to design flexible IP frameworks with fewer, rather than greater, obligations for IP protection.

South African scholars interpret Article 46 more flexibly stating that the provision requires only greater cooperation, not necessarily increasing IP protection.⁷⁰⁷ However, the only direct mandate from Article 46.6 of the Cotonou Agreement is that of strengthening further cooperation. Cooperation does not necessarily require the extension of IP protection in the EPAs. Rather, it would require the holistic consideration of food security interests that are affected by IPRs in West

⁷⁰⁶ European Commission, "Global Europe: competing in the world," EC Policy Review, October 4, 2006, online: <http://ec.europa.eu/trade/issues/sectoral/competitiveness/global_europe_en.htm>.

⁷⁰⁷ Dorica Suvye Phiri, "Economic Partnership Agreements and Intellectual Property Rights Protection: Challenges for the Southern African Development Community Region" (2009) *South African Institute of International Affairs (SAIIA) Occasional Paper* No.48, October 2009, at 7-8.

Africa, such as access to seeds and protection of traditional knowledge, in a manner similar to the Doha Declaration.

Article 46.5 of the EPA defines IP to include utility models, patents including patents for bio-technological inventions and plant varieties or other effective *sui generis* systems. Many WTO member ECOWAS states that have the option of adopting a *sui generis* system for PVP under the TRIPs Agreement,⁷⁰⁸ have also committed to adopt TRIPS-plus plant breeder's regimes because they are signatories to other multilateral IP treaties cast in the mold of UPOV 1991. This raises the question of how to reconcile the flexibilities of a *sui generis* system permitted under Article 27.3(b) of TRIPS, with the stricter requirements of other TRIPS-plus IP regulations. Which *sui generis* system should be allowed to prevail?

Article 46 of the EPA seems to focus on protecting the property rights of IP holders, rather than advancing the public interest objectives of IP protection. This overlooks the need for balancing of interests through holistic protection of all relevant rights which is necessary for harnessing an IP framework to advance social, as well as economic, objectives as stated in Articles 7 & 8 of the TRIPS agreement. The Cotonou Agreement's approach to IPR is similar to that of the WTO, as it adopts a non-interventionist approach to IP regulation.

4.2.3 EPA Provisions on Areas that are Subject to IP Protection

Article 46.2 of the EPA states that:

The EPA Agreement should lead to increased productivity, competitiveness and diversity of output in the agriculture and fisheries sectors. It should also facilitate the development of the processing sector and increase trade in agricultural, food and fisheries products between the

⁷⁰⁸ See Articles 46.1-3 of the Cotonou Agreement.

Parties in a way that is consistent with the sustainable development of natural resources.

In addition, Article 48.2 of the EPA requires that both parties shall examine all the cooperation measures, with a view, in particular, to: promoting technological progress, innovation and diversification in the agricultural sector;⁷⁰⁹ popularizing the use of agricultural inputs that are environmentally friendly;⁷¹⁰ developing research with a view to the production of improved seeds and their use by farming communities;⁷¹¹ and improving the storage and preservation of agricultural products.⁷¹²

Increasing productivity, diversity of output, improved seed, technological innovation and diversification in the agricultural sector are areas aided by biotechnological inventions which are protected by plant variety protection and other forms of IP as defined in Article 46.5 of the EPA. This may be interpreted to mean that the protection of PBRs, biotechnological inventions, geographical indications and other formal IPRs is necessary under the EPA.

However, smallholder farmers dominate the food producing agricultural sector in West Africa. They rely on traditional practices such as saving and exchanging seed freely. Driven by informal inventions, they have little reliance on modern technology. Because patents and PBRs, as formal IPRs can affect the ability of farmers to carry out these traditional practices, it is proposed that achieving the goals of Articles 46.2 and 48.2 of the EPA will require the consideration of other treaties that protect farmers' rights, traditional knowledge and informal innovations, along with customary IPRs.

⁷⁰⁹ EPA, Article 48.2(b).

⁷¹⁰ EPA, Article 48.2(c).

⁷¹¹ EPA, Article 48.2(d).

⁷¹² EPA, Article 48.2(f).

Adoption of other treaties would be difficult if Articles 46.2 and 48.2 of the EPA are interpreted as allowing solely for recognition of formal IPRs. Rather, the provisions should be defined as allowing West Africa to develop alternative frameworks for IP protection that recognize traditional knowledge and informal inventions. As long as the sui generis IP systems lead to increased productivity, innovation, competitiveness and diversity of output in the agriculture and fisheries sectors; along with their use by the local farming community in West Africa; such alternate frameworks for IP protection (such as the African Model Law) should not be proscribed.

4.2.4 EPA Provisions on Integrating IP Rules, Innovation and Traditional Knowledge

In Article 50.1 of the EPA, the parties acknowledge that achieving the objectives of the agreement requires greater integration of the agricultural and food markets sectors of the West African States, through the progressive elimination of the remaining barriers and the adoption of an appropriate regulatory framework.

The elimination of barriers to trade involves the greater harmonization of trade related IP regulatory frameworks between West African states. While certain levels of synchronization already exist among West African countries trade and IP policies under the ECOWAS agreements, because many West African countries have signed up to bilateral treaties that embrace UPOV (TRIPS-plus) standards, the question will be whether the standards of the WTO on IP protection, or those of other TRIPS-plus agreements should be the basis for an “appropriate regulatory framework” for the region. Considering the fact that the only IP and trade agreements to which all ECOWAS states are parties are the WTO agreements, it is suggested that despite the provision of Article 87.c (v) of the EPA, the provisions of the WTO-TRIPS Agreement would be more

appropriate as a law and policy framework for West African states than other TRIPS plus agreements.

The above opinion is supported by reviewing the provisions of the Cotonou Agreement that forms the basis for the EPA. Article 1 of the Cotonou Agreement prescribes the smooth and gradual transition of the ACP countries into the global economy as a primary goal. To achieve this objective, the Agreement provides a process for concluding of new World Trade Organization (WTO) compatible trading arrangements between the ACP States and the EU. This is to be accomplished through the conclusion of Economic Partnership Agreements (EPAs). As such, the EPAs reflect the understanding that transitioning into the global economy means ensuring compatibility with standards set in WTO agreements.

The standards contained in Articles 7 & 8 of the WTO-TRIPS agreement require IP regimes to uphold and balance certain public interest objectives alongside substantive IPRs. In comparison to other contemporary IP regimes, TRIPS offers wider flexibilities which ECOWAS countries could rely on to adopt an alternative framework for IP protection that is more supportive of traditional knowledge relevant to West African food security interests, such as the African Model Law. Where IP agreements do away with TRIPs public interest flexibilities, they cannot be said to be compatible with WTO standards. The implications that the EPA's framework for IP protection will have for food security in West Africa, will depend on the scope and nature of flexibilities provided under the agreement for consideration of food security interests. This question is examined in the following section.

4.3 EPA Provisions Relevant to Food Security

This section examines the objectives, principles, procedural and substantive provisions of the EPA, to determine what provisions they make to accommodate ECOWAS' food security interests.

4.3.1 Objectives and Principles

EPA is based on the progressive, asymmetrical liberalisation of trade in goods and services.⁷¹³ In achieving the liberalisation goal, the agreement aims “to contribute to the harmonious and progressive integration of the West African region into the world economy, in accordance with its political choices, its priorities and its development strategies.”⁷¹⁴ EPA also aims to strengthen economic and trade relations between the Parties on a basis of solidarity and mutual interest in accordance with WTO obligations, in a way that takes account of the significant difference in competitiveness between the two regions.⁷¹⁵

According to Article 1.1(a), EPA's objectives include the establishment of an economic and trade partnership so as:

to achieve sustained economic growth that creates employment, to reduce and eventually eradicate poverty, to raise living standards, to bring about full employment, to diversify economies and to increase real income and production in a way which is compatible with the WA region's needs and which takes into account the Parties' differing levels of economic development.

Two primary principles underlie the EPA: Firstly, it is to supplement commitments made in the Cotonou agreement.⁷¹⁶ Secondly, it is to operate based on the principle of reciprocity.⁷¹⁷

Reciprocity can be described as the standard by which parties require equal or equivalent mutual

⁷¹³ EPA, Preamble.

⁷¹⁴ EPA, Article 1.1(d).

⁷¹⁵ EPA, Article 1.1(e).

⁷¹⁶ EPA, Article 2.1.

⁷¹⁷ EPA, Articles 2.4 & 3.4.

action towards one another. When used in international law, it denotes a relationship where a state grants privileges to the citizens of another state, on the precondition that similar privileges are granted to its own subjects by that other state.⁷¹⁸ While similar to the National Treatment [NT] principle, reciprocity can be said to be a more rigid principle. For example, under reciprocity a state will grant a 10% concession on taxes, only when the other state involved has also granted the same concession. Therefore, a reciprocal agreement is less flexible than one governed by the NT or Most Favoured Nation [MFN] principles. Countries must provide similar, or equally advantageous trade concessions to one another.

Thus, under the terms of the EPA, the EU will open up its markets to West African products from the first date of entry into force. In return, ECOWAS will provide duty-free access to their own markets for EU exports, opening up 75% of its markets, with its 300 million consumers, to the European Union over a 20-year period and at various speeds for different categories of products.⁷¹⁹ Where the parties involved are of similar economic growth, reciprocity should not be a problem, but where there is significant difference in the economic growth between signatories, the cost of equivalence on the less developed country might be significant.⁷²⁰ It must be remembered that 11 out of the 15 ECOWAS countries rank among the world's least developed countries (LDCs). As LDCs, these countries are beneficiaries of tariff-free and quota-free access to the EU market under the Everything but Arms (EBA) regime and have nothing to gain in entering into the EPA.⁷²¹

⁷¹⁸ Bruno Simma, "Reciprocity", in Rudiger Wolfrum & Margret Solveigardottir, eds, *Max Planck Encyclopedia of Public International Law* (Oxford: Oxford University Press, 2008), para. 2.

⁷¹⁹ Antoine Coste & Erik von Uexkull, "Benefits of the ECOWAS CET and EPA will outweigh costs in Nigeria, but competitiveness is the real issue", *African Trade Policy Notes*, Policy note no. 43, January 2015, at 4.

⁷²⁰ Bruno Simma, *supra* note 731, para. 11.

⁷²¹ Czermińska & Garlińska-Bielawska, *supra* note 678, at 109.

In Article 2.4, the EPA permits special and differential treatment (SDT) between the EU and ECOWAS regions if it complies with Article 34 of the Cotonou Agreement, which requires that economic and trade cooperation shall be implemented in full conformity with the provisions of the WTO, including special and differential treatment.⁷²² Special and differential treatment refers to provisions which give developing countries special rights and which grants developed countries the option of treating developing countries more favourably than others.⁷²³ However, it will be difficult to reconcile the SDT principle with the principle of reciprocity also required under EPA.

The parties shall ensure that account is taken of the vulnerability of the economies of the West African region and that the liberalisation process incorporates the principles of progressivity, flexibility and asymmetry in favour of the West African region.⁷²⁴ Food security is listed among the justifications for SDT under the EPA. While observing the trade commitments made under the agreement, the parties shall refrain from undermining the implementation of agricultural and food security, public health, education and any other economic and social policies adopted by the West African region under its sustainable development strategy.⁷²⁵

Despite mentioning SDT as one of its principles, the EPA does not create specific substantive obligations or sanctions in enforcing it. In contrast, the principle of reciprocity is supported by substantive provisions requiring the removal of all tariffs between both parties. It is argued that the absence of binding commitments in the EPA undermine the effectiveness of the SDT provisions in the agreement. Par.13 of the Doha Development Agenda emphasises that “SDT

⁷²² Cotonou Agreement, Article 34.4.

⁷²³ WTO definition, online:

https://www.wto.org/english/tratop_e/devel_e/dev_special_differential_provisions_e.htm.

⁷²⁴ EPA, Article 2.4.

⁷²⁵ EPA, Article 2.5.

should be operationally effective and enable developing countries to take account of their development needs.”

The current construction of SDT in the EPA makes the provision operationally ineffective. This contradicts the provisions of Par 13 and Par 44 Doha which states that “all SDT shall be reviewed with a view to strengthening them and making them more precise, effective and operational.”⁷²⁶ Considering that provisions couched in similar general terms, such as Articles 7 and 8 of the TRIPS agreement, have not been very effective in influencing interpretation of the WTO agreement, the provisions of Articles 1-2 of the EPA might not have much legal weight.

SDT measures seek to address the gaps between developed and developing countries in their relative capacities to accept and implement various trade disciplines. Modern forms of SDT include special market access, policy space and the principle of less-than-full-reciprocity.⁷²⁷ Under the WTO agreements, SDT describes preferential provisions that apply to developing countries and LDCs. This treatment should be non-reciprocal. Measures that have been recognized as SDT are granted unilaterally to developing countries by developed countries.⁷²⁸

The EPA effectively does away with all the forms of SDT allowed for under the WTO agreements, including privileged access to the markets of trading partners; the right to restrict imports to a greater degree than developed countries; export subsidies; and flexibility in respect of the application of certain WTO rules, or to postpone the application of rules;⁷²⁹ without providing any alternative methods for SDT. This effectively removes the rungs of the ladder which developed

⁷²⁶ WTO, Doha Declaration 2001.

⁷²⁷ Wayne McCook, “Rethinking Special and Differential Treatment: Towards an Integration of S&D Principles into the 21st Century” (2015) 4:9, *Bridges Africa*, 11th November 2015 [McCook, Rethinking Special and Differential Treatment].

⁷²⁸ Mehedi Hassan, “Special and Differential Treatment in the WTO: Its Content and Competence for Facilitation of Development” (2016) NAUJILJ, 41 at 44.

⁷²⁹ *Ibid.*, at 44-45.

countries utilized for economic development, preventing ECOWAS countries from using similar measures.⁷³⁰

Conconi and Perroni insist that the SDT and reciprocity principles can be reconciled, as a form of incentive and punishment (the carrot and stick approach).⁷³¹ Analysis in earlier chapters of this thesis indicate that allowing for SDT in relation to the local West African agriculture and smallholder farmers remains an essential aid to advancing food security in the region. Because the provisions for SDT under EPA do not provide incentives or protection to these stakeholders through clear and systematic formulation, it is argued that the EPA is unlikely to advance food security in the ECOWAS region.⁷³²

The EPA reduces the right of ECOWAS countries to use trade policy rights under the WTO to impose tariffs and quotas and export taxes, under specific circumstances.⁷³³ It will be necessary for alternative systems to be developed. Reciprocal tariff reductions by developing countries need not fully match the levels of liberalisation in developed countries.⁷³⁴ Requiring that economies as different as those of the ECOWAS states and the EU countries carry full reciprocity and equal obligations, in terms of market access and removal of tariffs, as is mandatory under the EPA does not create room for differentiation at the level necessary to support food security in West Africa. Strategic analysis emphasize that African countries must ensure that measures to preserve policy space are based on realistic assessments of need for the flexibilities in current or future policymaking.⁷³⁵

⁷³⁰ McCook, Rethinking Special and Differential Treatment, *supra* note 740.

⁷³¹ Paola Conconi & Carlo Perroni, “Special and Differential Treatment of Developing Countries in the WTO” (2015) 14:1 *World Trade Review*, 67-86.

⁷³² Mehedi Hassan, *supra* note 741, at 54.

⁷³³ See Bernard Hoekman, Constantine Michalopoulos & Alan Winters, “Special and Differential Treatment of Developing Countries in the WTO: Moving Forward After Cancun”, (2004) 27:4 *The World Economy*, at 489, 490.

⁷³⁴ *Ibid*, at 487.

⁷³⁵ McCook, Rethinking Special and Differential Treatment, *supra* note 740.

The EPA focuses on increasing trade and market access as the most viable methods for advancing development. Consequently, trade and economic interests are placed on a higher pedestal than public interests like food security. For example, in Article 2.7 EPA, parties confirm the Doha Agreement objective to “reduce and avoid measures likely to create distortions in trade and their support for the realisation of an ambitious outcome in this regard.” However, the Doha Declaration was aimed at finding ways for managing IPRs so as to minimize any negative impacts they might have on public health and development and contains several objectives dealing with African development. Yet the EPA does not mention any of the specific provisions of the Doha declaration regarding food security and sustainability issues.

In Article 3.1 (Economic growth and sustainable development) of EPA, the parties confirm that the “objective of sustainable development must be applied and integrated at all levels of their economic partnership, in fulfilment of their commitments set out in Articles 1, 2, 9, 19, 21, 22, 23, 28 and 29 of the Cotonou Agreement.” The agreement defines the sustainable development objective as “a commitment to take full account of the human, cultural, economic, social, health and environmental interests of their respective peoples and of future generations.”⁷³⁶

From the above provisions, it is clear that EPA will impact on sustainability in significant ways and should be designed to support the principle. However, the ambiguities of some of the terms in the above provision undermine its effective application. For example, the means by which this “full account” shall be taken is not clearly outlined. For example, if a judge simply mentions the provisions in legal proceedings, would full account of sustainable development have been taken? Similarly, further detail is required on how the sustainable development should be applied and integrated under EPA.

⁷³⁶ EPA, Article 3.2.

4.3.2 Procedural and Substantive Provisions

Article 9.1 of the EU-ECOWAS EPA prohibits parties from introducing new customs duties on imported products covered under the agreement, or from increasing customs duties from the date of entry into force of EPA. This indicates a reduction of sovereign power of states, and reduced flexibility for West African countries in responding to food security challenges. Article 10 EPA requires the elimination of customs duties for the importation of goods between the EU and West African region. The provision demonstrates the reciprocity principle, as both regions are to eliminate customs duties on exports coming in from the other, the EU immediately and the West African countries progressively. Some authors argue that this will benefit consumers in ECOWAS countries, by providing cheaper EU imports.⁷³⁷ However, such arguments overlook the fact that increased imports (and reduced exports) will likely result in fewer jobs and less purchasing power amongst West African consumers. Without sources for funding, the West African consumer may not be able to access such cheaper imports.⁷³⁸

Furthermore, because the EU applies very low or zero tariffs on most of its imports from West African countries, the effect of the removal of trade barriers on the external sector or for fiscal performance is bound to be modest. In contrast, ACP States will have to face the full force of global competition.⁷³⁹ Until the agricultural produce of smallholder farmers in West Africa reach a level where they are able to viably compete with the mass production of EU conglomerates, enhanced by the application of mechanization and advanced technologies such as genetic

⁷³⁷ See Coste & von Uexkull, *supra* note 732, at 5 & 7; Ronald Sanders, “The EU, Economic Partnership Agreements and Africa” (2015) 104:5 *The Round Table* 563; European Commission’s Directorate-General for Trade, “The Economic Impact of the West African-EU Economic Partnership Agreement” TRALAC, 2nd June 2016.

⁷³⁸ See Chris Ward, “South Africa’s Chicken Industry May Not Survive Beyond 2018”, opinion in *DEVEX*, 17 August 2017, online: < <https://www.devex.com/news/opinion-south-africa-s-chicken-industry-may-not-survive-beyond-2018-90825>>.

⁷³⁹ Cotonou Issue Paper, *supra* note 558, at 1-2.

engineering, cloning and hybridization, such trade liberalization will not support food security in West Africa. “Historically speaking no case is known of a country in an embryonic stage of its economic development, which has developed itself through opening up to international competition.”⁷⁴⁰

Article 16.3 of EPA includes the MFN principle as part of the agreement. However, the principle is written in narrower terms than TRIPS. It states that:

the WA party shall grant the EU party any most favorable tariff treatment that it shall offer to a trading partner other than countries of Africa and ACP Member States, with a share of global trade in excess of 1.5 percent and an industrialisation rate measured by manufacturing value-added as a share of GDP in excess of 10% in the year prior to the entry into effect of the preferential Agreement referred to in this paragraph.

This specification of the global trade level, industrialisation rate and GDP implies that specific countries are targeted by this provision. The countries likely to fall into this range are the upcoming developing economies such as Brazil, Russia, India, China and South Africa (BRICS); economies which offer products and services that are generally cheaper and more affordable to West African states.⁷⁴¹ The majority of exports from BRICS countries to West Africa consist of manufactured rather than agricultural goods. As poverty plays a dominant role in food insecurity,⁷⁴² trade with BRICS seems less likely to threaten the jobs of subsistence farmers in West Africa. As the lowering of prices through food dumping, a practice adopted by the EU and the USA, is less likely to occur.⁷⁴³

⁷⁴⁰ CONCORD, “The EPA between the EU and West Africa: Who Benefits?” (2015) *CONCORD Europe Spotlight Policy Paper*, 15 April 2015, at 4.

⁷⁴¹ Doctors without Borders (2010), at 61-70.

⁷⁴² Carmen Gonzalez, “The Global Politics of Food” (2011) 43:1 *The University of Miami Inter-American Law Review*, 77 at 77-78.

⁷⁴³ Carmen Gonzalez, “World Poverty and Food Insecurity” (2015) 3:2 *Pennsylvania State Journal of Law and International Affairs*, 55 at 62-63.

Article 22.1-2 of the EPA permits countries to adopt safeguard measures, for a limited period, where a product is imported in such increased quantities as to cause or threaten to cause: serious injury to domestic industry producing similar products; socio-economic disturbances; or disturbances in agricultural markets. However, the safeguard measures available to a country under the EPA are limited to reduction of import duties; increasing customs duty to a level not beyond that applied to other WTO members; or the introduction of tariff quotas on the product.⁷⁴⁴ Suspending importation of the product is not allowed. This means that the disturbances or injury to national industry must continue, albeit at slower rates. The same limitations apply where importation levels threaten the establishment of an infant domestic industry (Art.23.1) or domestic food security (Art.47). These limitations do not offer much choice for countries faced with food security issues. Hence the EPA treaty inhibits the sovereignty of ECOWAS states.

The economic value of conditions stated in Art. 4 EPA, like removing trade barriers, opening up 75% of West African markets to European trade, and harmonization of law and policy in the region so as to be compatible with the multilateral trading system of the WTO, is also questionable. Studies by the FAO confirm that liberalized trade in agricultural products can produce a flood of cheap food imports, resulting in depressed food prices that threaten the livelihoods of small producers in developing countries. In Senegal, for example, the importation of new brands of rice has led to reduced consumption of local brands of rice.⁷⁴⁵

In West African states, the use of genetically modified seed to boost yields has been linked to reduced biodiversity.⁷⁴⁶ Scholars argue that genetically uniform export crops have displaced

⁷⁴⁴ EPA, Article 22.3.

⁷⁴⁵ Carmen Gonzalez, "Institutionalizing Inequality: The WTO Agreement on Agriculture, Food Security, and Developing Countries" (2002) *Colombia Journal of Environmental Law*, 433 at 476-477.

⁷⁴⁶ Sahel and West African Club & OECD, "The Socio-Economic and Regional Context of West African Migrations", *Working Document no. 1*, at 13.

traditional food crops, eroded agrobiodiversity, increased the risk of catastrophic crop failure in the event of blight or disease, and created dependence on chemical pesticides and synthetic fertilizers manufactured in the Global North.⁷⁴⁷ In the face of increased competition from the cheaper genetically modified brands of agricultural produce under EPA, smallholder farmers in West Africa may find continued production of domestic organic products unprofitable. The consequences are not limited to reduced biodiversity, but also include increased reliance on imported produce and greater food insecurity, even in the face of increased yields.

The importance of biodiversity for food security in Africa was highlighted in recent comments made by Sulemana Abdullai, the board chairman of the African Biodiversity Network, regarding genetically modified crops in Africa. He argued that there is insufficient evidence to prove that genetically modified crops are doing better, in terms of food security or nutrition security or income security. Rather, he insists that indigenous production methods and farming systems are more supportive of food security in Africa, because such processes enable smallholder farmers to plant more than one crop using locally-adapted seeds. Farmers who use traditional seeds actually own the bulk of what they produce, he argued. “They are food sovereign.”⁷⁴⁸

Article 26 of the EPA adopts the standards set out in the WTO’s TRIPS agreement on technical barriers to trade (TBTs) and sanitary and phytosanitary (SPS) measures. The WTO’s Agreement on the Application of Sanitary and Phytosanitary Measures came into force in 1995. The agreement was designed to provide uniform rules for all laws, regulations and requirements regarding how a product is produced, processed, stored or transported, to ensure that its import

⁷⁴⁷ Gonzalez, *The Global Politics of Food*, *supra* note 755, at 79.

⁷⁴⁸ DW, “Resistance of Genetically Modified Seeds in Africa”, 19th July 2018, online: <<https://www.dw.com/en/resistance-to-genetically-modified-seeds-in-africa/a-44736633>>.

does not pose a risk to human, animal or plant health. Sanitary measures are aimed at safeguarding human and animal health, while phytosanitary ones are intended to protect plants.

Getting agricultural produce to reach SPS standards in West Africa will be costly. This is because national laboratories in West African countries generally lack the equipment, coordination and skilled personnel necessary for carrying out the laboratory inspection and testing required to ensure implementation of SPS regulations. Moreover, the scarcity of public resources in West African countries, means that less financing is allocated to SPS services. A lot of West African countries depend on front-line government agents to gather samples for analysis, who may have weak links to, and poor coordination with, the relevant government agencies, so that sampling protocols may not result in optimal tests. By extension, government agents are generally underequipped to play a role in the testing system.⁷⁴⁹ Given that national policies are sometimes at odds with ECOWAS accords, and that national parliaments are slow to consider and pass ECOWAS rules, a USAID study has advised that it may be easier in the short-run to support individual countries to pass their own SPS frameworks (that align with ECOWAS) rather than regionally established ones.⁷⁵⁰

Though aimed at protecting human beings from everyday food hazards, SPS standards may also provide a loophole that allows countries to introduce measures that result in higher levels of protection than the international norm. A UN organ, the Joint Expert Committee on Food Additives (JECFA), composed of experts from the World Health Organization and the Food and Agriculture Organization, makes recommendations on appropriate global standards to a body called the Codex Alimentarius Commission. Codex is a collection of internationally recognized standards, codes of

⁷⁴⁹ USAID, “Evaluation of Sanitary and Phytosanitary (SPS) Trade Policy Constraints within the Maize and Livestock Value Chains in West Africa: Nigeria, Ghana, Cote D’Ivoire, Burkina Faso and Mali”, *LEO Report 37*, September 2016, at 4 [USAID, Evaluation of SPS Trade Policy Constraints].

⁷⁵⁰ *Ibid.*

practice, guidelines and other recommendations relating to food, food production and food safety. Codex standards are recognized by the WTO and referred to in disputes relating to food safety and consumer protection. Yet, the EU frequently chooses to ignore Codex recommendations and adopts much stricter SPS standards, thereby limiting the importation of food from West Africa into the region.

SPS can pose an obstacle to West African products entering the EU.⁷⁵¹ A 2017 communication by ECOWAS indicates that previous efforts to strengthen SPS in the region were not successful. It was noticed that apart from Senegal and Ghana, most ECOWAS member States were unable to apply for the first round of application due to many reasons including lack of real and functional national Codex structures in ECOWAS member countries, difficulties in conducting national consultation and scientific assessment and an inability to fill the application form.⁷⁵² Another relevant example involves residues of aflatoxins, which cause cancer, found in processed nuts and dried fruit, among other foods. Since 1998, the EU has demanded that food entering its market meet stricter standards for aflatoxins than the international Joint FAO/WHO Expert Committee on Food Additives (JECFA) recommends. This is despite studies that show that cutting the levels to EU standards would lead to only two fewer deaths per billion people per year. The World Bank estimates that for African exporters of cereals, fruits, vegetables and nuts, the annual cost of complying would be about \$670 million.⁷⁵³ The EPA provisions seem to provide

⁷⁵¹ See European Commission, “West Africa: Agro-industry” *Sustainability Impact Assessment (SIA) of the EU-ACP Economic Partnership Agreements*, Final Report, July 2005, at 18-19; Gumisai Mutume, “New Barriers Hinder African Trade”, *African Renewal*, January 2006.

⁷⁵² WTO- Committee on Sanitary and Phytosanitary Measures, “Outlook on ECOWAS Implemented Sanitary and Phytosanitary Activities During the Period of July-October 2017”, Communication from ECOWAS-USAID Senior Sanitary and Phytosanitary Standards Advisor and ECOWAS Head of Livestock Development, 3 October 2017, G/SPS/GEN/1574, par. 3.4 & 3.5.

⁷⁵³ Gumisai Mutume, “New Barriers Hinder African Trade”, *supra* note 764.

EU states another avenue for back-door trade protectionism, which will not enhance food security in West Africa.

The possibility of countries using SPS measures for trade protectionism is acknowledged in Article 25.3 of the EPA, which states that, “measures adopted for protecting the health or safety of persons as well as animal life or health and plant and environmental, must not create unnecessary barriers to trade between the parties.” Yet instances exist of SPS measures being used to restrict African goods from overseas markets. For example, in the 1990s European countries banned fish from Kenya, Mozambique, Tanzania and Uganda due to concerns about these countries’ sanitary standards and control systems. Uganda lost \$36.9 million in potential earnings during the ban. In Tanzania, where fish and fish products accounted for 10 per cent of annual exports, fishermen dependent on EU sales lost 80 per cent of their income. Studies in Kenya show that to comply with high EU standards, farmers would have to spend 10 times more than they currently do. To comply, Uganda would need to spend \$300 million upgrading its honey-processing plants and coffee producers would spend 200 per cent more to produce coffee at the required standard.⁷⁵⁴

In Article 28 the EPA establishes the principle of equivalence under which the “Parties shall accept the other Party's SPS measures as equivalent, even if those measures differ from theirs or from those used by other Members trading in the same product”. However, this provision does not guarantee importation of products of West African origin into Europe, for the SPS standards of ECOWAS states might make agricultural products originating in the region undesirable to EU consumers and economically unviable. On the other hand, it can be argued that if the SPS measures

⁷⁵⁴ *Ibid.*

inspire West African countries to upgrade their agricultural products and the capacity of smallholder farmers, this might in the long run be more beneficial for food security in the region.⁷⁵⁵

The latter view is based on the idea that increased qualitative and quantitative production will have wider markets and generate funds for local farmers. Considering the high cost of implementing SPS measures for West African countries; the fact that SPS measures can act as non-tariff barriers; and the fact that such measures are only one among many other factors that influence the competitiveness of produce in the region; this study posits that high SPS standards are insufficient motivation to change production in ECOWAS countries.⁷⁵⁶

Chapter 6 of the EPA deals specifically with agriculture, fisheries and food security. Under Article 46.1, “The Parties recognise that in the West African region, the agriculture, including livestock farming, and fisheries sectors account for a significant proportion of GDP, play a key role in the fight against food insecurity and provide an income and employment for most of the working population.” Similarly, Article 46.2 states that the EPA should help to increase productivity, competitiveness and diversity of output in the agriculture and fisheries sectors in a manner consistent with sustainable development principles. EPA supports the implementation of its national and regional policies.

While parties to the EPA recognize that securing the food security of the population and raising the means of subsistence in a rural environment are essential for reducing poverty and must be viewed in the wider context of the Sustainable Development Goals,⁷⁵⁷ the agreement only addresses economic methods, namely the avoidance of any breakdown in the agricultural and food

⁷⁵⁵ See Olayinka Kareem, “Product Standards and Africa’s Agricultural Exports” (2014) *AGRODEP Working Paper* 009, December 2014, at 52-53.

⁷⁵⁶ See USAID, Evaluation of SPS Trade Policy Constraints, *supra* note 762, at 121-124; Valentina Delich & Miguel Lengyel, “Can Developing Countries Use SPS Standards to Gain Access to Markets? The Case of Mercosur”, in Marion Jansen *et al* (eds), *Connecting to Global Markets* (Geneva: WTO, 2014) 87, at 97-98.

⁷⁵⁷ EPA, Article 46.3.

products markets in West Africa, to deal with food security. Yet, food security is not solely based on markets.⁷⁵⁸ Factors such as local production capacity, sustainable food systems, equitable distribution, along with job and income generation also play important roles in supporting food security. The EPA does not provide for the protection of any of these other factors. By focusing on a single sector (economic), the EPA lacks the holistic approach necessary for advancing food security in IP laws and policies.⁷⁵⁹

Similarly, in Article 46 EPA, the parties recognize the role of food security and sustainability in different agricultural sectors, and their desire to trade so as to bring about these objectives. However, no specific responsibilities are laid out in the subsections of the article. This makes the food security objectives sound merely like aspirational norms, without providing the legal backbone needed to implement them.

Article 47.1 gives the West African region, or its individual member states, the option of taking appropriate measures in line with the procedure described in Article 22 of the EPA, “When the implementation of this Agreement results or seems likely to result in difficulties for the West Africa Party or a State of the West African region in obtaining or gaining access to the products necessary for ensuring food security...”. Article 22 EPA dictates “Safeguard Measures” which a country may adopt for agriculture.

In Article 48.6 of the EPA, the European Union Party undertakes to refrain from the use of export subsidies for agricultural products exported to West Africa. Current agricultural subsidies in Europe are not export subsidies. Thus, this provision will not give African agricultural products

⁷⁵⁸ C. Peter Timmer, “Food Security, Structural Transformation, Markets and Government Policy” (2017) 4:1 *Asia & the Pacific Policy Studies*, 4 at 6-7; V.S. Vyas, “Ensuring Food Security: The State, Market and Civil Society” (2000) 35:50 *Economic and Political Weekly*, 4402, at 4404-4405 [Vyas, Ensuring Food Security].

⁷⁵⁹ Maximo Torero, “Food Security Brings Economic Growth-Not the Other Way Around”, *IFPRI Blog*, 14th October 2014.

any competitive advantage over imported European products. Article 87.1 EPA, the general exception clause, allows parties to adopt exceptions that are necessary to protect public security, or human, animal or plant life or health. However, such exception measures must also be consistent with other EPA provisions and WTO Agreements, including those relating to the protection of intellectual property rights.⁷⁶⁰

Under the EPA, commonly consumed agricultural products are regarded as sensitive and are excluded from the elimination of tariffs on imports. In its market access offer, West Africa excludes 25% of tariff lines which covers all the products considered most sensitive, such as meat (including poultry), yoghurt, eggs, processed meat, cocoa powder and chocolate, tomato paste and concentrate, soap and printed fabrics. Many of the products currently attracting 20% duty under the ECOWAS Common External Tariff, such as fish and fish preparations, milk, butter and cheese, vegetables, flour, spirits, cement, paints, perfumes and cosmetics, stationery, textiles and apparel, are also excluded from liberalisation. At the same time, tariffs will be progressively eliminated on 75% of goods such as equipment and other inputs making them cheaper for local businesses.⁷⁶¹ For agricultural products or finished consumer goods currently produced in the region or for which the region plans to develop production capacity, West Africa will keep applying customs duties.

However, imports of certain agricultural processed goods (such as milk powder and canned sardines) are usually liberalized, which leads to increased competition with the corresponding local products (milk). Contemporary studies indicate that because they are usually higher in sugar content, saturated fats, and lacking in vitamins, processed foods are generally less healthy than

⁷⁶⁰ EPA, Article 87.1(c)(v).

⁷⁶¹ European Commission, "Economic Partnership Agreement with West Africa, Facts and Figures", 29/11/2017, at 2, online: <http://trade.ec.europa.eu/doclib/docs/2014/july/tradoc_152694.pdf>.

natural foods.⁷⁶² Nevertheless, because they add value to the food chain, processed agricultural goods are given special considerations under EPA and WTO regulations.

The food chain is a term used to describe the various transformations a food commodity goes through from the point at which seed is planted by the farmer to the last stage when it is acquired by the final consumer. The nature of the food chain, the number of stages of processing and transportation through which the commodity passes, the level of efficiency and technical sophistication and capital intensity of the processing, and the degree of competition at different stages of the food chain, are all important in determining the availability of the commodity, in physical terms of amount and geographical distribution, and in economic terms of the price level.⁷⁶³

Considering the structure of imports from the EU of individual West African countries indicates that for some of the countries (e.g. Burkina Faso, Guinea-Bissau, etc.) manufactured products accounts for a major share and most of those products will be covered by the elimination of tariffs on imports from the EU.⁷⁶⁴ This flooding of manufactured agricultural products or finished consumer goods into West Africa may provide larger quantities of food, but such food may not necessarily be of better quality in nutritional value than local products. ECOWAS countries should take note of a 2018 *Deutsche Welle* (DW) documentary,⁷⁶⁵ which linked the marketing of processed foods in Brazil, by international conglomerates like Nestle with a rise in obesity, malnutrition and food insecurity among Brazilian nationals.

⁷⁶² NHS, "Eating Processed Foods", *Eat Well*, 01/06/2017; Kenneth Brown, "How Processed Foods can Affect your Health", *Very Well Fit*, 16 June 2018.

⁷⁶³ C Peter Timmer, *Food Security and Scarcity: Why Ending Hunger is So Hard* (Pennsylvania: University of Pennsylvania Press, 2015), at 132-137, [Timmer, Food Security and Scarcity].

⁷⁶⁴ Czermińska & Garlińska-Bielawska, *supra* note 678, at 113.

⁷⁶⁵ "The business of poverty and food companies", *Deutsche Welle*, (5th September 2018), online: < <https://saopauloinformer.com/70279/the-business-of-poverty-and-food-companies-dw-documentary-sao-paulo-video/>>.

The volatility of market prices for agricultural goods indicates that food security is better supported by greater national self-sufficiency, meaning the extent to which a country can satisfy its food needs through domestic production, rather than importation.⁷⁶⁶ In the context of West Africa, measures to protect smallholder farmers and national fledgling industries are desirable to support food security in the region. At the same time, it must be stressed that protectionist measures do not improve competitiveness of agricultural production. Thus, in the long-run, laws and policies should aim at transforming the smallholder agricultural sector in West Africa to be more viable through adding value to the food chain and providing the necessary infrastructure.

4.4 Implications of the EPA for Food Security in the Region of West Africa

While a full empirical analysis of the EPA's impact is beyond the scope of this thesis and it may be too early to draw definitive conclusions, it is important to consider possible implications of the agreement for food security.⁷⁶⁷ Because it is more difficult to change provisions retroactively, this section anticipates IP issues surrounding the EPA, exposing the anticipated challenges in advance, with the aim of guiding West African countries to avoid potential damages. The provision for the accelerated adoption of West African countries into the world trading system, coupled with the elimination of almost all duty rates, in conformity with the principle of reciprocity by the Economic Partnership Agreement (EPA) can significantly influence the ability of West African countries to attain regional food security. Not only might it affect food availability, but it also impacts on food access, and the local agricultural industry. The following sub-sections analyzes various anticipatory implications that EPA's provisions will have for food security in the West African region.

⁷⁶⁶ Timmer, *Food Security and Scarcity*, *supra* note 776, at 50-51.

⁷⁶⁷ Pannhausen, *Economic Partnership Agreements and Food Security*, *supra* note 130, at 2.

4.4.1 Reduced Agricultural Production in West Africa

Under the EPA, net-consumers will generally face lower prices for imported food from the EU, provided that the elimination of tariffs will also be reflected in the price. Food availability would thus be enhanced. However, rural net-consumers might find it increasingly difficult to find employment in the agricultural sector as wage laborers, because production of certain crops will fall due to reduced price incentives. Under a preferential trade liberalization scenario net-producers of food will most likely have to cope with stiff competition from the EU in some areas. Prices for some of their products will decrease and therefore reducing their incentives to produce for the market. As the vast majority of West African population depends on agriculture as their main source of income, the effect would be very pronounced. The overriding threat, especially in the short term, is that large portions of the population might have reduced access to food because of reduced incomes from agricultural production and labor. It is moreover questionable whether these people will find employment in other sectors, given the serious obstacles in terms of capacity, infrastructure, size and general lack of competitiveness of non-farm sectors in West Africa.⁷⁶⁸

4.4.2 Trade Diversion

When considering the impact on trade, ACP exports to the EU are forecast to be 10% higher with the EPAs than under the alternative trade regimes offered by the EU to African countries, namely the General System of Preferences (GSP), or Everything but Arms (EBA) agreements. In percentage terms, the largest increases in exports will occur in the livestock sector, which is forecast to at least double in the EPA scenario. Exports of agricultural products (excluding meat

⁷⁶⁸ Pannhausen, Economic Partnership Agreements and Food Security, *supra* note 130.

and cotton) and textile products are forecast to increase by 40%. On the import side, a 17.7% average increase is forecast for ACP countries in 2022.⁷⁶⁹

However, considering that the EU is signing similar preferential trade agreements with other regions, in Africa and Asia, the preferences granted in EPA might not make much difference. It is also important to remember that while agriculture in the EU and Asia is highly subsidized, the agricultural sector in ECOWAS states does not enjoy such benefits. This would make it difficult for ECOWAS products to viably compete with goods from such places.

On average ACP countries are forecast to lose 70% of tariff revenues on EU imports in the long run. The region most affected is ECOWAS.⁷⁷⁰ For a region where governments still remain highly dependent on tariffs, without alternative sources of income, such losses are likely to reduce revenues in West Africa.

Generally, previous studies indicate that European exporters are the main beneficiaries of the EPAs, as their sales to the ACP markets increase substantially after the implementation of these agreements.⁷⁷¹ Implementation pushes the prices of imports from Europe down, leading to increased welfare of ECOWAS consumers due to a reduction in prices. However, these studies are based on the presumption that tariff cuts will translate into proportional reductions in prices which benefit the final consumer. In reality, it is likely that some of the cut will be appropriated by the producers/importers.⁷⁷² Furthermore, this approach tends to ignore the adjustment costs faced by

⁷⁶⁹ Fontagne, Mitaritonna & Laborde, *supra* note 679, at 5.

⁷⁷⁰ *Ibid.*

⁷⁷¹ See Matthias Busse, Borrmann & Grossman, "The impact of ACP/EU Economic Partnership Agreements on ECOWAS Countries: An empirical Analysis of the Trade and Budget effects", (2004) *Hamburg Institute of International Economics*; Fontagne, Mitaritonna & Laborde, *supra* note 679, at 21; United Nations-Economic Commission for Africa (UNECA) & African Development Bank Group (2007-11), *Empirical analysis of tariff-line level trade, tariff revenue and welfare effects of reciprocity under EPAs with the EU: Evidence from Malawi and Tanzania* (Addis Ababa: UN-ECA, 2007).

⁷⁷² Fontagne, Mitaritonna & Laborde, *supra* note 679, at 20.

an economy. Those costs emerge from the reallocation of factors of production across sectors, or the reorganization of the fiscal base, shifting to other forms of taxation to replace tariffs.

In particular, the reciprocity principle governing the EPA negotiations would lead to the trade displacement that is already taking place in the regional economic communities. As a result, the EPAs pose a major challenge to the ability of West African countries to raise inter- and intra-regional trade. Previous studies focusing on EPAs in Africa,⁷⁷³ indicated that trade displacement affecting the regional integration agenda would take two forms: trade between African countries within the same EPA, and possibly diverted regional grouping. In addition, since the EPA provisions have not coordinated the common external tariffs and sensitive products lists, intra-regional trade will be compromised. The projections of the UN Economic Commission for Africa (UNECA) indicate that with reciprocal trade arrangements under EPAs, European import surges could displace intraregional exports or intra-Africa trade by up to 16 per cent.⁷⁷⁴

Moreover, the EPAs have rules of origin that differ from those already operating in West Africa. These rules favour the EU more than those that African countries are offering each other in regional agreements. These inequities affect the type and level of production and trading that takes place. Given that the rules of origin favour the EU, the status quo which favours trade in the direction of Europe is likely to persist. Even where product diversification is supported by the EPAs rule of origin, the export destination is likely to be outside West Africa.⁷⁷⁵

⁷⁷³ See Romain Perez & Stephen Karingi, “How to Balance the Outcomes of the Economic Partnership Agreements for Sub-Saharan African Economies” (2007) *The World Economy*, 1877; and United Nations Economic Commission for Africa (UN-ECA), *Assessing Regional Integration in Africa II: Rationalizing Regional Economic Communities* (Addis Ababa, Ethiopia: UN-ECA, 2006) [ARIA II].

⁷⁷⁴ United Nations Economic Commission for Africa (UN-ECA), *Assessing Regional Integration in Africa IV: Enhancing Intra-African Trade by the Economic Commission for Africa* (Addis Ababa, Ethiopia: UN-ECA, 2010) at 405 [ARIA IV].

⁷⁷⁵ ARIA IV, at 405-406.

4.4.3 Lower Consumer Prices and Income Losses

Inadequate and unstable income is paramount to food insecurity. This point was poignantly related by one economist in the following words: "The World Bank says the price you charge for rice is too high... you must allow rice imports". But if rice is at one CFA franc on the market and "if the 300,000 families have lost their job, thus their income, what will they buy? How will they live?"⁷⁷⁶

Even when falling food prices positively affect the poor in particular years, the long-term implications of such exposure to volatile international prices may be negative for the poor. Sustainable food security for the poor in developing countries requires a certain relatively stable relationship between purchasing power and food prices to be maintained, which in turn means that even in rural areas, it is not the absolute price of food which matters so much as the relation between such prices and wages and available employment.

The basic fallacy made by classical trade theories that assess gains from trade in terms of the consumption benefits is these theories assume "full employment."⁷⁷⁷ In the absence of high levels of employment, it is wrong to think of consumers as independent entities with unlimited financial incomes. Instead, consumers require purchasing power, through increased wages or personal profits which will allow them to make purchases in the first place. Consequently, open trade that generates lower food prices is not always beneficial to the poor. "If the same open trade which is providing access to lower priced food is also generating unemployment and loss of livelihood in the rural areas, and therefore reducing the purchasing power of the poor, then obviously the effects

⁷⁷⁶ Mamadou Cissokho, *Discours au Congrès de la Coordination Rurale*, Caen, 28 Novembre 2002.

⁷⁷⁷ For discussion of this term and criticism of such economic theories see: John Williams, "International Trade, Theory and Policy: Some Current Issues" (1951) 41:2 *The American Economic Review* 418, at 419, 428-429; Nicholas Kaldor, "What is Wrong with Economic Theory" (1975) 89:3 *The Quarterly Journal of Economics* 347, at 351-352; and "Comparative Advantage is Dead? Not at all, Lamy tells Paris Economists", *WTO News* (12 April 2010), note examination of fallacy 4-trade destroys jobs, online: <https://www.wto.org/english/news_e/sppl_e/sppl152_e.htm>.

of such trade on the poor may be perverse.”⁷⁷⁸ Because it does not guarantee the creation of employment for subsistence farmers in West Africa, liberalization of agricultural imports under the EPA is not likely to enhance food security in the region.⁷⁷⁹

Nevertheless, it is important to acknowledge that arguments exist in favour of EPAs. For example, the European Union argues that as long as the EPA adopts ECOWAS common external tariffs as the basis from which to make market-access offers to the EU, then the agreement would contribute towards enhanced economies of scale. The goal of enlarged regional markets could also begin to be realized. This would stimulate investment, increase domestic competition and promote the diffusion of technology.⁷⁸⁰ However, this argument does not take note of the vast variations between West African countries, eleven of which are LDCs. The interim EPAs (iEPA) signed by Ghana and Ivory Coast are examples of where the EPA has led to fragmentation within the region.

Other literature emphasizes that to become competitive, it is necessary for African countries to diversify their exports by focusing on the production of those crops in which they have a comparative advantage and by adding to the value chain. As such, they view the adoption of level standards to all countries, including LDCs, in EPA as the best way to wean local industries in West Africa off their reliance on foreign aid, so that they may acquire the necessary know-how to be globally competitive and to respect the increasing higher quality and safety international

⁷⁷⁸ Jayati Ghosh, *Trade Liberalization in Agriculture: An Examination of Impact and Policy Strategies with Special Reference to India*, Human Development Report Office, Occasional paper, 2005/12.

⁷⁷⁹ Jacques Berthelot, “David and Goliath: Argument Against the Economic Partnership Agreements (EPAs) between the European Union and the African, Caribbean and Pacific Countries”, *Solidarite*, 28th December 2006, at 4.

⁷⁸⁰ Stephen Karingi & Laura Deotti, “Interim Economic Partnership Agreements Point to the Classic Regional Trade Agreements After All: Should African Countries Really be Worried?” (2009) *African Trade Policy Centre (ATPC) Work in Progress* no.75, April 2009, at 2.

standards.⁷⁸¹ This approach effectively nullifies the provisions for special and differential treatment, which is important for development in West Africa.

It is necessary to observe that if African countries do not establish regional markets before opening to EU imports, they run a high risk of displacing or substituting previously efficient regional suppliers with less competitive EU marketers. This could undermine any opportunity to develop industries in goods that can be traded regionally. Indeed, one of the key rationales for regional integration is that small African economies might be able to develop industries. But the EPAs could make this difficult unless mitigating measures are taken.⁷⁸² Aid for trade is also offered under the EPA. But this is not a viable method for sustainable growth and food security in Africa.⁷⁸³

EPAs are expected to generate mixed outcomes for African economies with few benefits for Africa's industrialization, yet they are likely to reduce West Africa's policy space. Although most African countries are already given large preferences on their exports to the EU market through the Everything but Arms (EBA) initiative for LDCs and Generalized System of Preferences (GSP) for most middle-income countries (leaving just a few agricultural sectors still protected), the EU faces relatively high tariff barriers on nearly all its exports to Africa. As such, EPAs will not greatly improve Africa's access to the EU, while the EU will see its access to Africa's market significantly increased.⁷⁸⁴

⁷⁸¹ See Sanoussi Bilal & Isabelle Ramdoo, "Regional Integration in Africa: The Impact of the Economic Partnership Agreements", in Gotowski A. *et al*, eds., *Africa's Progress in Regional and Global Economic Integration-Towards Transformative Regional Integration*, African Development Perspectives Yearbook Vol.8 (Lit Verlag, 2016) 229; Karingi & Deotti, *supra* note 709, at 35.

⁷⁸² ARIA IV, at 406.

⁷⁸³ ARIA IV, at 416-417.

⁷⁸⁴ UN-ECA, *Economic Report on Africa 2015: Industrializing through Trade* (Addis Ababa, Ethiopia: UN-ECA, 2015) at 155.

If EPAs generate exports for Africa, most will be in a few agricultural sectors (rice, sugar, milk, meat and vegetables, fruit and nuts). These are sectors for which gains could well be overestimated considering the difficulty for African nations in meeting the EU's sanitary and phytosanitary requirements. The increase in Africa's exports to the EU would also come at the expense of intra-African trade, which would fall by \$3 billion in 2040, following full implementation of ECOWAS-EU EPA and ESA-EU EPA. Also, tariff revenues for African governments would be significantly cut with the reform, limiting real income gains for African countries. In March 2014, the EU Foreign Affairs Council, aware of some of the costs implied by EPAs (especially for LDCs), committed to provide financial compensation to African countries, to be disbursed between 2015 and 2020 under the Economic Partnership Agreement Development Programme. Nevertheless, this assistance will not be enough to compensate for the EPAs' impacts on intra-African trade.⁷⁸⁵

4.4.4 Reduced Intra-Regional Trade

In November 2007, Nigeria submitted an official request to the European Commission to enable immediate admission for itself and other non-LDC ACP countries to the preferential GSP plus scheme, in the event that no EPA agreement was reached by December 31. That request was immediately rejected. As a result, from January 1, 2008, 'recalcitrant' Nigeria, which, unlike Ghana and Ivory Coast, did not sign the EPA interim agreement, faced higher tariffs under standard GSP, than it did under the Lomé-Cotonou provisions. Consequently, Nigeria's cocoa butter and cocoa liquor exports to the EU now attract additional 4.3% and 6.3% respectively.⁷⁸⁶ About 95%

⁷⁸⁵ *Ibid.*, at 155-156.

⁷⁸⁶ Felix Oladunjoye, "Impact of EPA on Agriculture (Cocoa Processing Industry)", paper presented at MAN/NSEG Workshop on Economic Partnership Agreements, Lagos, May 15-16, 2008.

of Nigeria's cocoa products are exported to the EU alone, because of the higher freight charges to the US and Asian markets. Estimates by the Cocoa Processors Association of Nigeria (COPAN) show that some \$5 million had been lost by the end of March 2008. Since December 2007, when Ghana signed the interim EPA, Nigerian beverage factories using cocoa are now relocating their plants to Ghana.⁷⁸⁷ Thus, the interim EPA that Ghana and Ivory Coast were made to sign in December 2007 will likely destroy the existing process of regional cooperation and integration.

The results of an impact assessment showed that implementation of the EPA in its present form will represent major challenges for Nigeria. These include massive loss of government revenue, emasculation of the manufacturing industry, devastating employment losses, increase in poverty levels and erosion of policy space. Furthermore, the urgent and substantial import liberalisation promoted by the EPA will reduce capacity in the manufacturing sector as a result of the influx of imported products. This concern has been raised by the Manufacturing Association of Nigeria (MAN), which has been vocal in its opposition to the EPA and advised Nigeria against signing the treaty.⁷⁸⁸ A more appropriate strategy would be to prioritize an intra-African, regional import liberalization scheme above the opening of African domestic markets to the EU on a bilateral and preferential basis.

As the EPA negotiation process unfolds, African countries should uncompromisingly seek improved market access while vigorously pursuing the enhancement of their supply capacity. Their specific demands should include: duty and quota-free access for all products, elimination of all domestic support and export subsidies on all products of export interest, exemptions for all exports from EU contingent protection measures, African involvement in setting EU product standards

⁷⁸⁷ *Ibid.*

⁷⁸⁸ See Henry Boyo, "EPA as 'Enslavement Partnership Agreement'", *Vanguard Newspaper Nigeria*, 18 September 2017.

and sanitary and phytosanitary measures, simplified and practical rules of origin. Provision, by the EU, of technical and financial assistance is also needed to establish the infrastructures to meet the established standards, and full EU market access is needed with respect to trade in services, particularly for movement of natural persons of all skill levels.⁷⁸⁹

Furthermore, ECOWAS related treaties should be guided by the principle of sovereign autonomy and consistency with national interest. Nigeria must be wary of Europe's Aid for Trade strategy. No matter how attractive it may appear, such 'aid' cannot replace a truly pro-development EPA, and should, therefore, never be accepted. It may turn out to be a gag on Nigeria to agree to an EPA that is inconsistent with its own national development priorities and strategy.⁷⁹⁰ As such, there is a need to meticulously review contentious EPA issues and clauses to ensure their consistency with national and regional development plans and aspirations. Finally, the time frame for the EPA should be tied to the achievement of basic development thresholds in ECOWAS countries, with the principle of reciprocity only commencing after these thresholds have been reached. Obviously, all of these would constitute a serious challenge to the liberal orientation of the policy making class in the region.

4.4.5 Narrower Scope for Special and Differential Treatment and Less Flexibility

The provisions for special and differential treatment (SDT) in the EPA are much narrower than those contained in the WTO Agreements. For example, under TRIPS Articles 7 & 8, as well as Article 27.3(b), the WTO gives countries the discretion to implement alternative special systems for plant protection and provides the principle of balancing of interests as a justification for

⁷⁸⁹ Nwoke, Nigeria and the Challenge of the EPA, *supra* note 688, at 11-12.

⁷⁹⁰ *Ibid.*

adopting SDTs. Under the WTO, LDCs are granted longer time periods for implementation of commitments. In contrast, the EPA does not make any provision for these flexibilities.

Yet, the need for greater differentiation is reflected in the 2018 decision of the WTO Panel in *Australia-Plain Packaging*.⁷⁹¹ The case considered the regulation in Australia that tobacco must be sold with no trademarks or marketing visible other than name, so as not to encourage smoking. In its decision, the Panel ruled that Australia's law requiring tobacco products to be sold in plain packages in the interest of public health does not violate the country's obligations not to interfere with global trade under TRIPS and other WTO Agreements. The decision is important as it justifies greater wiggle-room for WTO countries to adapt IP regulations to integrate health interests. As the EU argued: "The provisions of the TRIPS Agreement provide *a wide margin of discretion* for setting up an IP regime that is capable of responding to public health concerns."⁷⁹² The acknowledgment of wider rather than narrower discretion highlights the need to allow countries some room to determine the design of IP regimes for public health interests such as food security.

The 2018 decision of the WTO Panel in *Australia-Plain Packaging* indicates that members have discretion to adopt IP policies that are necessary to maintain the balances of interests established in TRIPS for public health purposes. The decision emphasizes that TRIPS Articles 7 and 8 are important for interpreting other provisions of the Agreement, including where measures are taken by Members to meet health objectives. Bearing in mind the importance of the Doha Declaration, particularly paragraphs 4 and 5(a), Panels and the Appellate Body should give

⁷⁹¹ *Australia-Certain Measures Concerning Trademarks, Geographical Indications and Other Plain Packaging Requirements Applicable to Tobacco Products and Packaging* (2018) WTO-SCI, 28 June 2018, (18-4061), revising WT/DS435/R, WT/DS441/R, WT/DS458/R, and WT/DS467/R [Australia-Plain Packaging].

⁷⁹² *Australia-Plain Packaging*, par. 7.2360, page 717 [Emphasis added].

preference to interpretations on the meaning of particular provisions that are "supportive of WTO Members' right to protect public health in disputes."⁷⁹³

The Panel emphasized a growing role for flexibility and differentiation, as it states that in interpreting WTO provisions "[b]oth the goals and the limitations stated in Articles 7 and 8.1 must obviously be borne in mind when doing so as well as those of other provisions of the TRIPS Agreement which indicate its object and purposes."⁷⁹⁴ Countries are not to pick and choose only the enforcement of IPRs, without enforcing the limitations on and objectives for IP protection as well.

Though focusing on trademarks, the decision of the panel that the adoption of special requirements is not unjustifiable is relevant to patents.⁷⁹⁵ For they indicate that countries have discretion to adopt special measures for justifiable public health purposes. While the word "unjustifiably" (used in Article 20 of TRIPS) interpreted in this decision, differs from the word "necessary" used in Articles 7 & 8 TRIPS and in the Doha Declaration, the decision that such measures are allowed indicates an acceptance of greater individual choice by WTO member states. The decision points to a degree of latitude for WTO states to choose an intervention to address a policy objective, which may have some impact on the use of IPRs in the course of trade, as long as the reasons sufficiently support any resulting encumbrance.⁷⁹⁶

Moreover, 12 of the 15 countries that make up ECOWAS are LDCs, which under the EU's other regional agreements (the Everything but Arms [EBA] and General System of Preferences [GSP]) are not required to open up their markets or adopt IP protection standards as stipulated

⁷⁹³ Australia-Plain Packaging, par. 7.2360, page 717.

⁷⁹⁴ Australia-Plain Packaging, par. 7.2402, page 725.

⁷⁹⁵ Australia-Plain Packaging, par. 7.2442, page 733.

⁷⁹⁶ Australia-Plain Packaging, par. 7.2598, page 74 and par. 7.2604, page 766.

under the EPA.⁷⁹⁷ These countries, which form the majority in ECOWAS have nothing to gain from adopting international trade and IP standards before they are ready.

Studies comparing the impact of the GSP, EBA and EPA on ACPs indicate that the GSP and EBA would be more beneficial to ACP countries rather than the EPAs, the more so if they can avail of a GSP+. Unfortunately, the EU Commission is rejecting special and differential treatment within the EPA regions even for LDCs. The Commission insists on “single starting lines”, meaning that all ACP countries within an EPA region have to apply the same tariffs for EU goods. This goes against the differentiation that the ACP countries have built into their existing integration processes. The EU Commission rejects ACP proposals that would allow the least-developed countries within regions to choose for the Anything-But-Arms”.⁷⁹⁸

Furthermore, the EPAs build on the idea adopted in the WTO and Cotonou agreements that increased IP protection and unfettered opening of domestic markets to international trade is a prerequisite for development. Several studies have proved this concept to be faulty in the West African context. It is also important to keep in mind that with the recent decision of the UK to leave the European Union (aka Brexit), greater harmonization with the EU may not be in the interests of West African countries. Rather, they need the flexibility to negotiate strategically with both the EU and the UK. Increasing, rather than narrowing, the space for negotiation is especially important considering the increased role that BRICS countries, specifically China and India, are beginning to play in West African economies. Greater differentiation rather than harmonization is West Africa’s best strategy.

⁷⁹⁷ Under the EU bilateral "Generalised System of Preferences" (GSP) since 1971 for DCs – in which they benefit from lower ID of about 30% compared to the normal ID of the so-called "most favoured nation" (MFN) applied to developed countries – and duty free-quota free (DFQF) applied to the "least developed countries" (LDCs) since the EU Decision "Everything But Arms " (EBA) of 2001.

⁷⁹⁸ Berthelot, David and Goliath: Argument against the Economic Partnership Agreements (EPAs) between the European Union and the African, Caribbean and Pacific Countries”, *supra* note 792, at 7.

4.4.6 Forcing Similar Conditions on Different Parties

Studies emphasize that due to the discrepancy in competitiveness between the EU and ECOWAS, the application of similar trade conditions to both regions under the EPA are skewed to favour the EU, rather than ECOWAS countries.⁷⁹⁹ A 2002 Oxfam report, aptly titled *Rigged Rules and Double Standards*,⁸⁰⁰ points out that the rules of international trade are manipulated in favour of EU countries. Oxfam devised an index to quantify which countries did most damage to ACP countries in international trade. This measured EU protectionism based on its average tariffs, the size of its tariffs in agriculture and textiles and its restrictions on imports from the poorest ACP countries. The measure is called the Double Standard Index (DSI) because “it measures the gap between the free trade principles espoused by EU countries and their actual protectionist policies.” In this measure, the EU “emerges as the worst offender.” Moreover, “the double standards of [EU] governments are most apparent in agriculture.”⁸⁰¹

Prematurely opening up West Africa’s markets translates into greater reliance on imports by the region because African agricultural production and agric-related products will find it very difficult to compete with the cheaper, perhaps better quality and even larger supply of goods and services from European countries. This was confirmed by the 2009 joint declaration⁸⁰² on the state of African agriculture by four regional African networks of farmers organizations.⁸⁰³ In the declaration African farmers assert that poverty, dependence and food insecurity could worsen as a

⁷⁹⁹ Malgorzata Czermińska & Joanna Garlińska-Bielawska, *supra* note 678, at 112-117; CONCORD, *supra* note 753.

⁸⁰⁰ Oxfam, *Rigged Rules and Double Standards: Trade, Globalisation, and the Fight Against Poverty*, (Oxford: Oxfam, 2002), online: <www.make-tradefair.com>.

⁸⁰¹ Nwoke, Nigeria and the Challenge of the EPA, *supra* note 688.

⁸⁰² Result of the meeting held in Rome, April 14-15, 2009.

⁸⁰³ The EAFF: East African Farmers’ Federation; PROPAC: Plateforme Sous-régionale des organisations paysannes d’Afrique Centrale; ROPPA: Réseau des Organisations Paysannes et de Producteurs Agricoles de l’Afrique de l’Ouest; and UMAGRI: Union Maghrébine des Agriculteurs.

result of uncontrolled liberalization and significant opening of their borders and agricultural and agro-alimentary markets, as stipulated in WTO accords and as provided for in economic partnership agreements promoted by the European Union. For this reason, the organizations asked that the right of each country to provide itself with agricultural and trade policies oriented towards food sovereignty be granted. The networks also requested the satisfaction of food requirements using regional products and recognition of family farms as the priority means for guaranteeing food security in the fight against poverty and for economic and social development in Africa.⁸⁰⁴

The majority of ECOWAS countries are LDCs which are eligible to duty-free quota-free (DFQF) access to the European market under the Everything but Arms (EBA) scheme and would in theory not lose access should EPA not be signed. While recognizing that contrary opinions exist on this matter,⁸⁰⁵ this thesis argues that for these LDCs, as well as developing countries in West Africa, opening their markets to the EU under the EPA reciprocal regime will not be of benefit to them. The costs outweigh the gains. The only difference being the greater degree of impact that will be experienced by the LDCs.

The EU disintegrated the ECOWAS region by forcing Ghana and Ivory Coast to initialing (an) Interim EPA in 2007 on the threat of loss of their access to the EU market. The result of this single action was the existence of four different trade regimes in West Africa.⁸⁰⁶ This has undermined the position of the ECOWAS as a single negotiating block and the prospects for an ECOWAS common market, although the interim agreements have not been ratified.⁸⁰⁷ As the preferences granted under the Cotonou Agreement expired in 2007, the EU temporarily granted

⁸⁰⁴ Barilla Center for Food & Nutrition, *The Challenges of Food Security* (Italy: Barilla Center, 2011) at 38, online: <<https://www.barillacfn.com/m/publications/pp-challenges-food-security.pdf>>.

⁸⁰⁵ Antoine Coste & von Uexkull, *supra* note 732, at 2-4.

⁸⁰⁶ Ronald Sanders, *supra* note 750, at 567.

⁸⁰⁷ *Ibid.*, at 563-571.

Duty Free Quota Free (DFQF) market access to African countries that engaged EPA in negotiations under the Market Access Regulation (MAR). The others reverted to the less favorable GSP (Nigeria), an enhanced “GSP+” (Cabo Verde) or the EBA in the case of LDCs.

4.4.7 Lack of Provisions for Local Capacity Building

The Manufacturing Association of Nigeria (MAN) sees the EPA as detrimental to the development of Nigeria's industrial sector. The association has warned that the agreement, in its present form, would negatively impact on local manufacturing and result in shutdown of industries with heavy job losses, because of the unfair competition that will evolve. A former president of the association, Chief Kola Jamodu, also noted that, "no country can develop without protecting its industries", and therefore cautioned that "Nigeria stands the risk of having its market flooded by European goods with a resultant negative effect, on local industries and the economy, if the EPA is approved in its present form."⁸⁰⁸ MAN is equally concerned that food and agricultural imports from such better endowed competitors may also reduce West Africa's chances of success in the region's attempts to be self-sufficient, in rice and maize production.

Reliance is maintained by the aid offered to ECOWAS by the EU to implement the EPA. The European Commission worked with EU Member States and the European Investment Bank (EIB) to reach a joint commitment for support to West Africa's EPA Development Programme in the new programming period 2015- 2019. As a result, the EU Council of Ministers decided on 17 March 2014 to provide at least €6.5 billion to ECOWAS to support the establishment of EPA in

⁸⁰⁸ See Henry Boyo, “Nigeria: EPA as ‘Enslavement Partnership Agreement’”, *Vanguard*, 18 September 2017; and Ifeanyi Onuba, “EPA: A Trade Pact Nigeria Not Willing to Adopt”, *Punch*, September 11, 2016.

an Aid for Trade deal.⁸⁰⁹ However, reliance on foreign aid does not guarantee the development of domestic industry necessary for food security.

The potential impacts of an EPA on West Africa were evaluated by the European Commission in the regional sustainable impact assessment (SIA) report. With regards to food security the report indicates that imported agricultural goods from the EU can be considered as an obstacle to local production. The report warns that increasing competition between local production and imported food products could induce important changes in the nature and localization of the production (for example rice as a staple food for a large part of the West African population) and deprive people in the region from direct access to basic food products, which would negatively affect food security in the region.⁸¹⁰ The report singles out wheat and wheat flour, as well as poultry imports from the EU, as items which could undermine local grain production and infant industries in West Africa.⁸¹¹

Economists have quantitatively assessed the trade and government revenue effects of a potential EPA for 14 West African countries.⁸¹² The report warns that the reduction in import duties, resulting from eliminating the preferential tariff, might create challenges for West African countries and emphasizes the necessity of implementing complementary fiscal and economic policies before or at the time the EPAs come into force. In addition, a ‘gradualist’ approach to reductions in trade-protection measures is proposed, given the existence of adjustment costs.⁸¹³

⁸⁰⁹ European Commission, “Economic Partnership Agreement with West Africa, Facts and Figures”, 29/11/2017, at 2-3, online: <http://trade.ec.europa.eu/doclib/docs/2014/july/tradoc_152694.pdf>.

⁸¹⁰ European Commission, “Regional SIA: West African ACP Countries”, *Sustainability Impact Assessment of the EU-ACP Economic Partnership Agreements*, Final Report Revised, 30th January 2004, (2007/05: EU-ACP Economic Partnership Agreements), at 122.

⁸¹¹ *Ibid*, at 122-123.

⁸¹² Matthias Busse & Harald Großmann, “Assessing the Impact of ACP-EU Economic Partnership Agreement on West African Countries” (2004) *HWWA Discussion Paper* no. 294.

⁸¹³ Pannhausen, *Economic Partnership Agreements and Food Security*, *supra* note 130, at 24.

4.5 Relationship between EPA and Other Regional and Multilateral IP and Trade Agreements

4.5.1 The WTO Agreements

Several EPA provisions require that the agreement shall not be construed or amended in a manner that is incompatible with certain provisions of the WTO's GATT,⁸¹⁴ SPS, TBT⁸¹⁵ and TRIPS Agreements.⁸¹⁶ The EPA also adopts the provisions of WTO Agreements regarding IP protection. This indicates that the EPA has placed itself in a hierarchy below some pre-existing agreements, specifically the WTO Agreements and the Cotonou agreement in the areas specified. However, because the flexibilities in the EPA are couched more stringently than those contained in the WTO Agreements, inconsistencies between the agreements remain likely, as highlighted in the examples below.

Article 21.1 of the EPA allows contracting parties to adopt safeguard measures taken pursuant to Article XIX of the GATT of 1994, the WTO Agreement on Safeguards and Article 5 of the WTO Agreement on Agriculture.⁸¹⁷ The provisions mentioned are special safeguards which grants WTO member states freedom to suspend and withdraw obligations and concessions to prevent agricultural and other products being imported into their territory, in such increased quantities and under such conditions as to cause or threaten serious injury to domestic producers

⁸¹⁴ EPA, Article 12:1-2.

⁸¹⁵ EPA, Article 28.1.

⁸¹⁶ EPA, Articles 84 & 105.2.

⁸¹⁷ Safeguard measures are “emergency” actions with respect to increased imports of particular products, where such imports have caused or threaten to cause serious injury to the importing Member's domestic industry. Such measures, which in broad terms take the form of suspension of concessions or obligations, can consist of quantitative import restrictions or of duty increases to higher than bound rates. WTO, “Agreement on Safeguards”, online: <https://www.wto.org/english/tratop_e/safeg_e/safeint.htm> .

in that territory of like or directly competitive products.⁸¹⁸ Because the possibility of opening up West African markets to dumping of European agricultural products remains a prominent criticism of the EPA, retaining these multilateral safeguards is important for advancing food security in the region. However, Article 21 makes the adoption of measures pursuant to Article XIX of the GATT of 1994, the WTO Agreement on Safeguards and Article 5 of the WTO Agreement on Agriculture subject to other provisions of Article 21.

Article 21.3 of the EPA commits the EU to refrain from using the multilateral safeguards of GATT article XIX, of the Safeguard agreement and of article 5 of the Agreement on Agriculture (the special safeguard which can be triggered for excessive import quantities or too low import prices) against West African imports. This prohibition is limited to a period of five years and can only be extended with approval by the Joint Council of the EPA.⁸¹⁹ The limited time period for applying emergency measures, and the requirement that renewal requires consent from the other party, differentiates the EPA provision from Article XIX of GATT, which grants contracting parties freedom to suspend the obligation in whole or in part or to withdraw or modify the concession in respect of the product “... *to the extent and for such time as may be necessary to prevent or remedy such injury.*”⁸²⁰ The time necessary to prevent or remedy injury may be longer than the 5 year limit granted in the EPA.

While under the WTO Agreements prior notice is to be given to other parties before emergency measures are taken, in critical circumstances, where delay would cause damage which it would be difficult to repair, action under Article XIX GATT may be taken provisionally without prior consultation.⁸²¹ Parties may adopt and continue such safeguards even where no agreement is

⁸¹⁸ GATT, Article XIX.1(a).

⁸¹⁹ EPA, Article 21.4.

⁸²⁰ GATT, Article XIX.1(a) & GATT, Article XIX.1(b) [Emphasis added].

⁸²¹ GATT, Article XIX.2.

reached between the interested contracting parties, with the affected party being allowed to take reciprocal actions and suspend concessions or other obligations necessary to prevent or remedy the injury.⁸²² In contrast, the EPA requires approval by the Joint Council, a body consisting of the EU, WAEMU, ECOWAS, and individual European and West African countries, where obtaining consensual agreement is likely to be more difficult.

Under Article 12.2 of the EPA, the parties shall ensure that amendments to the agreement are not incompatible with Article XXIV GATT. The latter provision requires that duties, customs unions rules, and other restrictive regulations of commerce be eliminated on substantially all the trade between the constituent territories in products originating in such territories. While this makes the EPA WTO compliant, it will make it more difficult for the ECOWAS region to develop new qualitative and quantitative restrictions to protect local agricultural industry necessary for supporting food security in the future.⁸²³ This challenge is enhanced by Article 34 of the EPA which prohibits quantitative restrictions between the EU and ECOWAS states. The EPA will benefit from more detail on how discrepancies between the flexibilities in the EPA and WTO agreements should be resolved.

4.5.2 The Cotonou Agreement

The EPA is based on the principles and essential points of the Cotonou Agreement, as set out in Articles 2, 9, 19 and 35 of the said Agreement. The EPA is founded on the achievements of the Cotonou Agreement and previous EPA-EU conventions. The EPA shall be implemented in a way that complements the achievements of the Cotonou Agreement. (EPA Articles 2.1 & 2.2) This

⁸²² GATT, Article XIX.3.

⁸²³ See WTO-Appellate Body, *Turkey- Restrictions on Imports of Textile and Clothing Products*, 22 October 1999, WT/DS34/AB/R.

indicates that the Cotonou Agreement is an important source of reference for the EPA, providing guidance on the interpretation of EPA.

The EPA is a result of negotiations based on the Cotonou Agreement with the objective of producing "new World Trade Organisation (WTO) compatible trading arrangements, removing progressively barriers to trade between them and enhancing cooperation in all areas relevant to trade."⁸²⁴ The EPA can thus be viewed as requiring conformity with WTO standards for IP protection.

The challenge of this approach for West African countries is twofold. Firstly, WTO-TRIPS rules are based on the dominant paradigm that open markets and increased IP protection will create conditions necessary for advancing socio-economic development in all countries. However, several studies have emphasized that the WTO model does not guarantee social development, especially in African countries.⁸²⁵

Secondly, the provisions that have been adopted in the EPA to attain WTO conformity are often TRIP-plus.⁸²⁶ For example, The Cotonou Agreement made fewer demands on African countries relating to IP and presented a very simple architecture, recognizing the need to ensure adequate protection for IPRs but not entailing an obligation to accede to any international agreements.⁸²⁷ Some form of differential treatment was allowed and full reciprocity not required between participating countries. ACP countries remained free to decide for themselves what standards to implement according to their level of development. However, these differential flexibilities of the Cotonou agreement are done away with under the Articles 12.2, 87 and 105 of

⁸²⁴ Cotonou Agreement, Article 36.1 & Article 34.4.

⁸²⁵ Nsongurua Udombana, "Back to Basics: The ACP-EU Cotonou Trade Agreement and Challenges for the African Union" (2004) 40:59 *Texas International Law Journal*, 59 at 91-95.

⁸²⁶ UK Food Group, "An Analysis of Intellectual Property Rights in EU-ACP Economic Partnership Agreements: Unveiling the Hidden Threats to Securing Food Supplies and Conserving Agricultural Biodiversity", (2009) *Hidden Threats* Briefing, at 1 [UK Food Group Briefing 2009].

⁸²⁷ Cotonou Agreement, Article 46.1.

the EPA, which obligates West African countries to implement the highest standards of IP protection contained in treaties to which they are signatories.⁸²⁸ EPA also requires full reciprocity in obligations between parties.

TRIPS-plus standards reduce the control of farmers over seeds, do not protect traditional varieties, and hinder the ability of traditional farmers to continue traditional farming practices.⁸²⁹ As such, the adoption of 'TRIPS-plus' WTO conformed standards in the EPA is detrimental to West African food security and subsistence farmers whose livelihoods depend on agriculture based on traditional knowledge and the conservation of agriculturally biodiverse seeds.

4.5.3 Bilateral EPAs in West Africa

As international treaties between states, Economic Partnership Agreements are born into the existing body of international law. Their relations therefore are governed by international law.⁸³⁰ The relationship between two or more distinct rules of international law in general, and between different treaties in particular, is foremost governed by the need for a harmonious interpretation, which operates as a presumption against conflict between the relevant rules.⁸³¹

Article 31(3)(c) of the Vienna convention on the Law of Treaties (VCLT), calls upon a treaty interpreter to deliberate "any relevant rules of international law applicable in relations between the parties." Article 31.3(c) of the VCLT makes it necessary for the interpreter to consider the provisions of other treaties so as to arrive at a mutually consistent meaning between two or more distinct treaties. Two of the signatories to the EU-ECOWAS West African EPA, Ghana and Ivory

⁸²⁸ CIEL, "The European Approach to Intellectual Property in European Partnership Agreements with the African, Caribbean and Pacific Group of Countries" Discussion Paper, April 2007, at 1.

⁸²⁹ UK Food Group Briefing 2009, *supra* note 840, at 4.

⁸³⁰ Ruse-Khan, Towards Safeguarding TRIPS Flexibilities, *supra* note 499, at 333.

⁸³¹ *Ibid.*, at 334.

Coast, are also signatories of bilateral free trade agreements with the EU. Because Article 31.3(c) of the VCLT requires that all laws be considered holistically, any relevant free trade agreements carried out by West African states will have implications for the EPA. The EPA also emphasizes the need for integration in policy between West African countries. Below, the provisions of two bilateral agreements by West African countries are compared with those of the regional EPA to determine how they limit or support the implementation of the latter agreement.

The interim EPAs (iEPA), ratified in 2016, between the EU and Ghana,⁸³² and the EU and Ivory Coast,⁸³³ adopt more stringent provisions than the regional EPA in the following areas:

a) Bilateral safeguards (article 25 of iEPA and article 22 of the regional EPA):

Whereas the regional EPA provides that safeguards will be applicable for 4 years, with the possibility of renewal for 4 additional years; Article 25.6(b) of the iEPA provides that they will be available for at most 2 years with the possibility of renewal at most for 2 years.

b) Infant industry clause (article 23 of the regional EPA): Article 23 of the EU-ECOWAS EPA allows parties to adopt interim measures to protect infant industries for a period of eight years. In contrast, the iEPA does not make specific provision for protecting such industries, even though the protection of infant industries is one of the justifications for introducing temporary customs duties or charges under Articles 16 and 25 of the iEPA.

⁸³² *Stepping Stone Economic Partnership Agreement between Ghana, of the one part, and the European Community and its Member States, of the Other Part*, (2016) *Official Journal of the European Union*, OJ L 287, 21 October 2016, at 319.

⁸³³ *Stepping Stone Economic Partnership Agreement between Cote d'Ivoire, of the one part, and the European Community and its Member States, of the Other Part*, (2016) *Official Journal of the European Union*, OJ L 59, 21 October 2016, at 3-273.

c) Multilateral safeguards (article 21 of the regional EPA): the EU-ECOWAS EPA provides that the EU should refrain from using the multilateral safeguards of GATT Article XIX, of the Safeguard agreement and of article 5 of the Agreement on Agriculture (the special safeguard which can be triggered for excessive import quantities or too low import prices) for 5 years. In contrast, there is no article for multilateral safeguards in the iEPA, and no allusion is made to the ECOWAS safeguards.

Under Article 80 of the iEPA, Parties agree that nothing in this Agreement requires them to act in a manner inconsistent with their WTO obligations.⁸³⁴ Also, with the exception of development cooperation provided for in Title II of Part 3 of the Cotonou Agreement, in case of any inconsistency between the provisions of this Agreement and the provisions of Title II of Part 3 of the Cotonou Agreement the provisions of this Agreement shall prevail.⁸³⁵ However, the iEPA does not contain provisions that clarify its relationship with the regional EPA. The lack of mechanisms to ensure consistency between regional and bilateral agreements in West Africa is a source for potential conflict of laws within the region.

Scholars have warned that differing EPAs between ECOWAS and West African countries will weaken regional integration and reduce the bargaining power of the regional economic community. Such fragmentation will also undermine the continental integration sought to be established in the AfCFTA.⁸³⁶ Because the bilateral iEPAs erodes the ability of ECOWAS to adopt flexibilities in previous agreements, it is important to establish a mechanism that allows West

⁸³⁴ iEPA, Article 80.3.

⁸³⁵ iEPA, Article 80.1.

⁸³⁶ Ronald Sanders, *supra* note 750, at 568.

African countries to reserve the right to address any impediment to Africa's regional integration that arises from commitments undertaken in the bilateral EPAs.

4.5.4 The UPOV

Though the IP provisions of the EU-ECOWAS EPA are yet to be finalized, the provisions of Article 87 of the EPA give room for implementation of the UPOV if signed to by a West African country. Currently, none of the sixteen West African countries parties to the EPA are UPOV members. However, several of them are signatories to regional treaties built upon UPOV standards.⁸³⁷ If Article 87 or future provisions of the EPA require accession or ratification to the UPOV or treaties that adopt UPOV standards, this will impact the regional and national PVP laws of West African countries.⁸³⁸

Generally, the UPOV enlarges the rights of breeders and other IP holders, with less room being given to apply exceptions and limitations to IPRs. Such requirements are a potential source of conflict with other more flexible multilateral agreements to which West African countries are signatories, especially the WTO Agreement, as illustrated in the following example.

TRIPS Articles 7 & 8 espouses the need for balancing of interests within IP regulations. The balancing principle requires the holistic weighing of the interests, rights, and obligations of all stakeholders involved. Where IP protection encroaches upon the public interest, balancing of interests also necessitates reference to be made to non-IP agreements in interpreting IP laws, norms and principles. This creates policy space for differential implementation of IP regulations in a

⁸³⁷ Examples include the OAPI Bangui Agreement and the US AGOA. For detailed analysis see chapter three of this thesis.

⁸³⁸ Jay Sanderson, *Plants, People and Practices: The Nature and History of the UPOV Convention* (Cambridge: Cambridge University Press, 2017), at 54.

manner that allows WTO countries to tailor IP protection and enforcement to fit domestic needs.⁸³⁹ Consequently, TRIPS creates exceptions and limitations to IPR, and grants countries considerable flexibility in the structure by which IP protection is enforced. A prominent example being TRIPS Article 27.3(b) which gives WTO member states the option of protecting plant varieties either by patents, or by an effective *sui generis* system, or by a combination of both.

In contrast, the provisions of the UPOV 1991 agreement on plant variety protection approach IP protection from a different perspective. Article 5.2 of the UPOV establishes its own criteria as the only legal ones in the granting and assessment of the validity of the plant variety right. This narrows the scope for establishing an alternative *sui generis* regime for PVP in member states. The UPOV 1991 based system for granting PBRs does not require that the material used in breeding a variety is legally obtained, by provisions for prior informed consent (PIC) and access and benefit sharing (ABS), as is required under the CBD, Article 17 of the Nagoya Protocol and Article 9.2 of the ITPGRFA. Except PIC and ABS are specifically legislated in national regulations, UPOV-based regional treaties can hinder the functional implementation of the CBD and the Nagoya Protocol.⁸⁴⁰

Under the UPOV, countries are not given the flexibility to design their own methods for implementing PVP protection but must have their IP laws and policies approved in advance as being UPOV compliant. There is concern that PVP laws modelled on the UPOV 1991 are unsuitable for developing countries in general and Africa in particular since it outlaws practices of smallholder farmers of freely using, exchanging and selling seed or propagating material.⁸⁴¹

⁸³⁹ Ruse-Khan, The Protection of IP in International Law, *supra* note 234, at 29.

⁸⁴⁰ UPOV Study, *supra* note 291, at 64.

⁸⁴¹ Strba, Legal and Institutional Considerations for PVP, *supra* note 221, at 199.

These traditional farming practices are deemed key to sustainable seed supply and food security in West African countries, whose agricultural sector is dominated by smallholder farmers that heavily rely on such traditional farming practices.⁸⁴²

4.5.5 The CBD, ITPGRFA and African Model Law

Many of the provisions relevant to IP and food security are found in non-IP agreements like the Doha Declaration, Human Rights Law, the CBD, the ITPGRFA, and the African Model Law. However, little room is provided in the EPA for reference to these agreements. This raises uncertainty regarding the relationship of such agreements with IP Agreements specified in the EPA like TRIPS and the Cotonou Agreement.

Multilateral agreements regulating plants and genetic resources, such as the CBD and ITPGRFA, require that prior informed consent be obtained from farmers and communities where genetic resources are located, and that access and benefit sharing agreements be signed to distribute any profits made from their use. The EPA does not mention the CBD or ITPGRFA. The emphasis on upholding WTO agreements rather than other treaties meant to ensure that patents and PVP support public interests will hinder West African countries from relying on non-IP based agreements to prevent advance food security.

⁸⁴² Association for Plant Breeding for the Benefit of Society (APBEBES), “AFSA Makes Small Gains for Farmers’ Rights in Draft SADC PVP Protocol” (22 June 2014), available at < www.apbrebes.org/news/afsamakes-small-gains-farmers-rights-draft-sadc-pvp-protocol > (accessed 20 June 2016); La Via Campesina, “ARIPO’s Draft Protocol for the Protection of New Varieties of Plants (DRAFT Protocol) Undermines Farmers’ Rights, Lacks Credibility & Legitimacy”, *La Via Campesina* (14 April, 2014), available at < <http://viacampesina.org/en/index.php/main-issues-mainmenu-27/biodiversity-and-genetic-resources-main-menu-37/1591-aripo-s-draft-protocol-for-the-protection-of-new-varieties-of-plants-draft-protocol-undermines-farmers-rights-lacks-credibility-legitimacy> > (accessed 3 May 2016); African Centre for Biodiversity, “Civil Society Concerned with the Draft Protocol for the Protection of New Varieties of Plants (Plant Breeders’ Rights) in the Southern African Development Community Region (SADC)” (2 April 2013), available at < <http://acbio.org.za/wp-content/uploads/2015/02/CSO-submissionSADC.pdf> > (accessed 3 May 2016); African Centre for Biodiversity, “Declaration on Plant Variety Protection and Seed Laws from the SouthSouth Dialogue”, Durban, South Africa (5 January 2016), available at < <http://acbio.org.za/declaration-on-plant-variety-protection-andseed-laws-from-the-south-south-dialogue/> > (accessed 31 October 2016); AFSA, n 2.

This attempt at isolating the interpretation of IP regulations is highlighted when the provisions of Article 87.c (v) of the EPA are compared with those of Articles 2 and 9 of the TRIPS Agreement. Article 2.2 of TRIPS requires members to maintain existing agreements in the following words: “Nothing in Parts I to IV of this Agreement shall derogate from existing obligations that Members may have to each other under the Paris Convention, the Berne Convention, the Rome Convention and the Treaty on Intellectual Property in Respect of Integrated Circuits.”

By specifying four conventions with which member states must comply, TRIPS limits the IP obligations of member states to four previous agreements. In contrast, Article 87.c(v) EPA is much broader, as it will require compliance with both current and future laws relating to IP protection. This creates room for conflicts of interest as illustrated in the example below:

The elements of farmers’ rights are elaborated in the ITPGRFA. Article 9.3 of the ITPGRFA specifies that: “Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law”. Here, four specific acts that are traditionally carried out by farmers are stipulated as substantive rights that are not to be interfered with. In addition, Article 9.2 of the ITPGRFA states that farmers’ rights necessitate giving farmers the right to protection of traditional knowledge relevant to plant genetic resources for food and agriculture;⁸⁴³ the right to equitably participate in benefit sharing;⁸⁴⁴ and the right to participate in decision-making at the national level.⁸⁴⁵ This explicitly includes ensuring that farmers participate in revising existing policies relating to seed diffusion and PVP.

⁸⁴³ ITPGRFA, Article 9.2(a).

⁸⁴⁴ ITPGRFA, Article 9.2(b). See also CBD, Article 15 and the Nagoya Protocol, Article 5.2.

⁸⁴⁵ ITPGRFA, Article 9.3(c).

However, the definition of PBRs under Article 14 of the UPOV places the production or reproduction; conditioning for the purpose of propagation; offering for sale; selling or marketing; exporting; importing; and stocking of plant varieties or propagating materials (such as seeds) under the exclusive authority of the breeder.⁸⁴⁶ Thus, there is an overlap between both rights, as some of the activities placed under breeder's rights are also assigned as farmers' rights. If a farmer exerts any of the seed-related actions identified as elements of Farmers' Rights in Article 9 of the ITPGRFA, such as saving, using, exchanging or selling farm-saved seed or propagating material, the right of the owner of the PVP right is infringed upon.

Consequently, once a variety used by a farmer is protected by a PVP right, then almost any relevant action relating to seed falls under the right of the owner of the protected plant variety. So, if propagating material of a protected variety is found on a farm and used for any of these actions, then it is a violation of PVP legislation, unless the farmer can prove that it was legally acquired.⁸⁴⁷ Yet, these are activities that farmers in many developing countries commonly do with seed of their own harvest. Unless the PVP system establishes exceptions for the right to save seeds, then this kind of activity will become illegal.⁸⁴⁸

The UPOV does not recognize traditional knowledge, informal inventions, or farmers' rights over seeds. This contradicts with the position of the African Union which opined that in Africa an acceptable system of PBRs protection should include the protection of the "rights of communities and their indigenous knowledge, as well as the rights of farmers and fishermen, and their innovations, technologies and practices."⁸⁴⁹

⁸⁴⁶ UPOV, Article 14(a) par 1.

⁸⁴⁷ See *Monsanto Co v MDB Animal Health (Pty) Ltd (formerly MD Biologics CC)*, 2001 (2) 887 (SCA).

⁸⁴⁸ UPOV Study, *supra* note 291, at 52 section 5.3

⁸⁴⁹ See *Oguamanam, Breeding Apples for Oranges*, *supra* note 122, at 168.

No attempt is made by the EPA to build on the African Model Law, which contains IP provisions that are more suitable for the West African context. The African Model Law recognizes farmers as breeders in Articles 24-27. It also provides protection for local varieties in Article 25 par 2 which states that “A variety with specific attributes identified by a community shall be granted intellectual property protection through a variety certificate which does not need to meet the criteria of distinction, uniformity and stability.”

The African Model Law recognizes farmers’ rights;⁸⁵⁰ along with the inalienable and sovereign rights of states and local communities over biological resources, knowledge and technologies found amongst them.⁸⁵¹ The Model Law also acknowledges that technology has evolved and does not limit itself to recognizing only innovation taking place in the formal sector. This allows for traditional knowledge and indigenous innovation relating to West African agriculture to be legally protected. Access and benefit sharing, prior informed consent and farmers’ rights are also made a part of this law.⁸⁵²

This approach is supported in other multilateral agreements like Article 9.2 of the ITPGRFA which states that farmers’ rights encompasses the protection of traditional knowledge, the right to equitably participate in sharing benefits, and the right to participate in making decisions at the national level. Article 9.3 ITPGRFA confirms that farmers maintain the right to use, save, exchange and sell farm saved seeds and propagating material. However, because they are not agreements for IP protection, consideration of these provisions would be difficult under the EPA.

⁸⁵⁰ African Model Law, art 24.

⁸⁵¹ African Model Law, art 14.

⁸⁵² African Model Law, arts 3:2 and 5:1-2.

4.6 Conclusion and Recommendations

The above analysis reveals that IP protection is enacted in the EU-ECOWAS EPA in three streams: directly in articles 87, 105 and 106 of the EPA; in connection with other multilateral IP agreements; and in provisions regulating agriculture. The approach to IPRs dominant in the EPA is one that defers to the standards established in previous agreements, especially the WTO agreements and the Cotonou agreements.

While the provisions of the EPA allow countries to adopt standards for IP protection that go beyond those of the WTO TRIPS agreement, it does not create room for adopting the checks and balances to IPRs incorporated in TRIPS. In light of this, the EPA can be seen as an instrument that supports the expansion of stronger forms of IPRs in West African countries.

The EPA strengthens the rights of breeders and seed manufacturers at the expense of traditional farming practices and biodiversity in seeds, which play an important role in advancing food security in Africa.⁸⁵³

The EPA between the EU and ECOWAS provides the EU with an indirect means for placing more stringent standards for IP protection on ECOWAS countries than is provided under multilateral IP treaties such as TRIPS. Such TRIPS Plus agreements⁸⁵⁴ greatly reduces the ability of developing and least developed countries to adapt IP laws to suit their economic, technological or other societal needs.⁸⁵⁵

The EPA makes regional IP regulation subject to WTO laws and institutions, which reduces the room for domestic exceptions to IPRs that advance national food security and sustainable

⁸⁵³ Graham Dutfield, “Sharing the Benefits of Biodiversity: Access Regimes and Intellectual Property Rights” (1999), *supra* note 264; Dutfield, “Sharing the Benefits of Biodiversity” (2002), *supra* note 264.

⁸⁵⁴ A phrase used to denote provisions that require levels of IP protection that go beyond the standards required in the main multilateral agreement regulating IPRs, the WTO-TRIPS Agreement.

⁸⁵⁵ Henning G. Ruse-Khan *et al*, “Principles for Intellectual Property Provisions in Bilateral and Regional Agreements” (2013) *IIC* 44:878, at 881.

development. Small scale farmers and local food production is especially vulnerable.⁸⁵⁶ Sell⁸⁵⁷ and Jacques,⁸⁵⁸ for example, have noted that the expansion of IPRs may affect the ability of subsistence farmers to continue important agricultural processes such as saving, exchanging, and re-planting seeds. This in turn may make access to adequate nutritious food more expensive for poorer consumers; and support fewer varieties, which may negatively impact biodiversity.

In addition, food production in the ECOWAS region largely depends on subsistence farming that relies on traditional agricultural processes. Yet the EPA does not protect traditional knowledge or local inventions. Farmers are not perceived as innovators. There are those who claim that the expansion IPRs and stronger institutions to enforce IPRs, especially for genetically modified crops, is a good thing because it will enhance qualitative agricultural production and resolve problems of food security worldwide.⁸⁵⁹ In other words, the current WTO-driven system of IP protection will strengthen subsistence farming communities. But the claims that expanding and strengthening IPRs relevant to crops and genetic resources, will increase output and benefit the world are coming under critical scrutiny.⁸⁶⁰ This thesis adopts the more cautioned approach, as a lot of the research examining the link between IP and development has been inconclusive.

These observations raise the question of how the IP related norms and principles in the EU-ECOWAS EPA of 2014 may be adapted for greater advancement of food security and sustainable development in ECOWAS States? Considering the gaps identified in current IP and free-trade agreements between ECOWAS countries and Europe, it is necessary to explore alternatives to these agreements. Alternative frameworks are examined in the next chapter.

⁸⁵⁶ Correa, TRIPS Flexibility for Patents and Food Security, *supra* note 47, at 1.

⁸⁵⁷ Susan K. Sell, What Role for Humanitarian Intellectual Property? *supra* note 48, at 192-194.

⁸⁵⁸ Jacques & Jacques, “Monocropping Cultures into Ruin”, *supra* note 49, at 2972-2974.

⁸⁵⁹ Qaim & Kouser, Genetically Modified Crops and Food Security, *supra* note 43; Zilberman, GMOs and Food Security, *supra* note 91.

⁸⁶⁰ Dutfield, “Sharing the Benefits of Biodiversity: Access Regimes and Intellectual Property Rights” (1999), *supra* note 264.

The thesis has demonstrated that the current IP regime is not incompatible with advancing food security, but the flexibilities it offers are insufficiently used in practice. With the current impasse in the WTO, West African countries need to focus on how to utilize to the maximum the flexibilities available under other multilateral agreements through the implementation of a regional framework for IP protection that advances food security. Provisions like Articles 7 & 8 TRIPS enhance the view of IP as being an instrument for advancing public interest. The results obtained will depend more on how it is applied. The multilateral norms are not ‘bad’ per se, but they are implemented in a way that reduces policy space and favors IP holders. Also, at the international level the relationship between IP and food security is affected by the fragmentation of laws and regimes. Hence, it is for regional arrangements to make use of these flexibilities and to flesh out the norms balancing IP and food security with due consideration of local circumstances. Current regional arrangements fail to do that. Hence an alternative regional regime is required that utilizes the flexibilities granted in multilateral conventions and also tailors them to the specific food security needs of West Africa. The fifth chapter develops a framework that can be utilized to achieve these goals.

CHAPTER 5: A Model Framework for IP Protection to Enhance Food Security in West Africa

5.1 Introduction

Analysis in chapters 2, 3 & 4 of this thesis highlights shortcomings in the IP related provisions of multilateral, continental and regional agreements in which ECOWAS countries are participants, including the provisions of the EU-ECOWAS EPA, which reduces the suitability of the agreements for supporting food security in the region. This chapter draws up an alternative regional framework for IP protection more suitable for advancing food security in West African countries. Countries differ in the organization of their geo-political systems, which affects the design of their IP frameworks, and the legal instruments and norms upon which they are based. The design of IP frameworks determines the functions that it may achieve. Thus, designing appropriate law and policy frameworks is of paramount importance to achieving food security in West Africa.

The chapter tackles the second research question, namely: *“How can the intellectual property related norms, principles and provisions of multilateral regional agreements be best structured to support the attainment of food security in West Africa?”* The issue is important because the examination of multilateral and regional IP regulations including the EPA, in chapters 2-4 of the thesis, reveals shortcomings that make current frameworks for IP protection unsuitable for advancing food security in West Africa. Generally, multilateral IP agreements require harmonization and expansion of IPRs standards for all countries, adopting a ‘one size fits all’ approach. The majority of West Africa’s regional trade agreements (RTAs), examined in chapters 3-4, place more stringent standards for IP protection on ECOWAS countries than is required under multilateral IP treaties such as TRIPS. Yet, the strengthening of IP protection alone does not

automatically spur food security and socio-economic development in all countries. Countries and regions must find the right mix of policies to mobilize the innate innovative and creative potential of their economies. It is important to recognize that IPRs are accompanied by social costs arising from their monopolistic nature which, if not properly negotiated, could compromise the public interest-related goals of diffusion and equitable access to IP for food security.⁸⁶¹ For this reason, in order to advance food security in West Africa, IP regulations relevant to patents and PVP should be contextualized to suit the socio-economic needs of the region.

The thesis argues that a unique contextualized framework is necessary for harnessing multilateral and regional IP and trade agreements to advance food security in West Africa based on the following considerations: The main source of food crops in West Africa is subsistence farming that relies on traditional knowledge-based crops and home-grown agricultural processes. Yet, current IP regulations do not protect traditional knowledge or informal inventions. Farmers are not perceived as innovators. Modern IP systems are built on the theory that the expansion of IPRs and strengthening of institutions to enforce IPRs, especially for genetically modified crops, is a good thing because it will enhance qualitative agricultural production and resolve problems of food security worldwide.⁸⁶² However, this theory must be viewed critically in West Africa, as contemporary studies indicate that expanding and strengthening patents and PVP related to crops and genetic resources may not lead to increased domestic food production and food security in the region.⁸⁶³

⁸⁶¹ Adebambo Adewopo, Tobias Schonwetter & Helen Chuma-Okoro, “Intellectual Property Rights and Access to Energy Services in Africa: Implications for Development”, in Yinka Omorogbe & Ada Okoye Ordor, eds, *Ending Africa’s Energy Deficit and the Law: Achieving Sustainable Energy for All in Africa* (Oxford: Oxford University Press, 2018) at 132-134.

⁸⁶² Qaim & Kouser, *Genetically Modified Crops and Food Security*, *supra* note 43; David Zilberman *et al*, “Agricultural Biotechnology: Productivity, Biodiversity and Intellectual Property Rights” (2004) 2:2 *Article 3 Journal of Agricultural and Food Industrial Organization*, at 10-13.

⁸⁶³ Dutfield, “Sharing the Benefits of Biodiversity: Access Regimes and Intellectual Property Rights” (1999), *supra* note 264.

A lot of the research examining the link between IP protection and increased food production has been inconclusive. While some studies find that IPRs play a key role in enabling countries to attract international investors and generate the returns necessary to recoup development costs and further investment in research and development,⁸⁶⁴ others conclude that the emergence of IPRs in African agriculture is highly detrimental to local food production and small scale agriculture.⁸⁶⁵ Studies emphasize that strengthening IP regulation alone is inadequate to increase food security African countries.⁸⁶⁶ Historically, stronger IP protection systems were only adopted by developed countries after they reached a high level of industrialization and developed home grown technology.⁸⁶⁷ This indicates that IP policy and law should be crafted with reference to a country's socio-economic status and goals.

Access to genetically modified (GM) improved seed for food crops has not been enhanced by the stronger IP protection regimes adopted by West African states.⁸⁶⁸ Studies of biotechnology conclude that with the exception of Bt cotton, most genetically modified crops are at least 10-15 years from reaching smallholders in Africa.⁸⁶⁹ Even when an improved variety of cowpea was made available to some farmers in Nigeria, the farmers have continued to predominantly grow

⁸⁶⁴ See Steward Redqueen, "Who Benefits from Intellectual Property Rights for Agricultural Innovation? The Case of Ogura Oilseed Rape in France" (2015) Final Report Commissioned by CropLife Int. & EuropaBio, 8th October 2015 (update of original report launched in November, 2014) [Ogura Report]; Emmanuel Hassan, Ohid Yaqub & Stephanie Diepeveen, *Intellectual Property and Developing Countries: A Review of the Literature* (Santa Monica, CA: Rand Corp, 2010).

⁸⁶⁵ See Kuyek, IPRs in African Agriculture, *supra* note 433; Jennifer Long, "Global Food Security and Intellectual Property Rights" (2013) 21:1 *Michigan State International Law Review* 115, at 115-116.

⁸⁶⁶ Samuel Adams, "Intellectual Property Rights, Innovation and Economic Growth in Sub-Saharan Africa", (2011) 28:1 *Journal of Third World Studies*, 231 at 239.

⁸⁶⁷ Caroline Ncube, "The Development of Intellectual Property Policies in Africa- Some Key Considerations and a Research Agenda" (2013) 1:1 *Intellectual Property Rights*, at 1-2.

⁸⁶⁸ Niels Louwaars *et al*, *Impacts of Strengthened Intellectual Property Rights Regimes on the Plant Breeding Industry in Developing Countries: A Synthesis of Five Case Studies* (Wageningen, Netherlands: Wageningen UR, 2005), at 126; Carl K. Eicher, Karim Maredia & Idah Sithole-Niang, "Crop biotechnology and the African farmer" (2006) 31.6 *Food Policy*, at 504-527.

⁸⁶⁹ Eicher, Maredia & Sithole-Niang, *Ibid*, at 504; Hans P. Binswanger-Mkhize, "Challenges and Opportunities for African Agriculture and Food Security: High Food Prices, Climate Change, Population Growth and HIV and AIDS" (2009) Report for FAO Expert Meeting on How to Feed the World in 2050, 24-26 June 2009, at 42-43.

local varieties of the crop due to the high costs of annually purchasing genetically modified seeds and its unsuitability for local culinary preferences.⁸⁷⁰ Moreover, despite the adoption of multilateral and regional agreements that require increased levels of IP protection, the prevalence of high levels of food insecurity in West Africa indicate the inadequacy of current structures and the need to develop a more contextualized framework for the region. The agreements relevant to IP and food security in West Africa are highly fragmented. Also, current IP regulations affect and are influenced by economic, political and social factors. This makes it important to adopt a more integrated approach in developing IP regulations for the region.

The fifth chapter examines how the IP related provisions of regional and multilateral treaties signed by West African countries may be adapted to support food security in the region in three phases: Firstly, a legal framework will be developed by reviewing the gaps in current IP regulations that make them unfavorable to food security in West Africa, then developing legal principles, rules, and policies to fill in the gaps. Secondly, analysis is made of general international law to identify mitigating principles that ECOWAS countries may adopt if the EPA is finally ratified and adopted by the region. Thirdly, legal philosophies are analyzed to identify how protecting traditional technology and informal innovation may be successfully combined with formal IP protection, so as to advance food security in West Africa.

⁸⁷⁰ Joseph Mbaval *et al*, “Pattern of Adoption and Constraints to Adoption of Improved Cowpea Varieties in the Sudan Savanna Zone of Northern Nigeria” (2015) 7:12 *Journal of Agricultural Extension and Rural Development*, 322 at 327; Hiroyuki Takeshima *et al*, “Nigerian Farmers Preferences on the Timing of the Purchase of Rice, Cowpea, and Maize Seeds” (2010) *Nigerian Strategy Support Program (NSPP) Working Paper No. 0020*, at 1.

A Food Security Friendly Model IP Framework for West Africa: principles

A legal framework has been defined as a broad system of rules that governs and regulates decision making, agreements and laws.⁸⁷¹ In developing the framework reference has been made to human rights, legislative, regulatory, jurisprudential and managerial rules that together determine the rights of individuals, communities, corporations and countries to access and use IP to achieve food security objectives. These rules include multilateral and regional agreements, protocols and declarations. As documents that express “a shared understanding between states”,⁸⁷² they create responsibilities, reflect customary international practice or norms and are worthy of consideration. It is acknowledged that combining such rules may be challenging as not all agreements carry equal legal weight. However, considering the fragmented nature of IP regulations already existing in West Africa, the thesis argues that a holistic approach is necessary that contemplates all relevant laws in the region that affect food security. A holistic approach will necessitate embracing pluralism in IP regulation. Pluralism recognizes that “not only does intellectual property need to have regard to all of the frames of economics, trade, development, culture, and human rights, but also that it needs to do so in a number of different ways.”⁸⁷³ The framework examines how IP norms may interact with the norms in other relevant areas of law so as to advance West Africa’s food security interests.

Based on an interactive theory of law, which this thesis adopts, the legitimacy of laws does not imply only formal institution by states, or common objectives, but that participants “must share collective understandings [concerning] what they are doing and why, which have obvious

⁸⁷¹ World Law Dictionary Project, *Translegal Dictionary*, online: <<https://www.translegal.com/legal-english-dictionary/legal-framework>>.

⁸⁷² Jutta Brunnee & Stephen Toope, *Legitimacy and Legality in International Law: An Interactional Account* (Leiden: Cambridge University Press, 2010) at 22-23.

⁸⁷³ Graeme Dinwoodie & Annette Kur, “Framing the International Intellectual Property System”, in Rochelle Dreyfuss & Elizabeth Ng, eds, *Framing Intellectual Property in the 21st Century: Integrating Incentives, Trade, Development, Culture and Human Rights* (Cambridge: Cambridge University Press, 2018) 290 at 293.

resonance with the concept of law.”⁸⁷⁴ Consequently, the examination of laws at for the framework will extend beyond the sphere of states. It will include pronouncements by “international organizations, NGOs, corporations, informal intergovernmental expert networks, and a variety of other groups that are actively engaged in the creation of shared understandings and the promotion of learning amongst states and other international actors.”⁸⁷⁵

Consideration of different types of agreements is also necessary based on the differential and functional theories analyzed in sections 1.6, 2.4 and 3.4 of this thesis. IP regulation in West Africa is not a traditional system with a central arbiter, but an arrangement of parallel agreements that should be coordinated based on an alternative framework that integrates the varying objectives of the agreements. Under the functionalist and differential principles, rules are assessed based on which rules work best in achieving the objective of food security in the West African context. Rules are not applied based on regime hierarchy, but on their utility as instruments for integrating their objectives. Detailed analysis of how to avoid conflict of norms has been made in sections 2.4 and 3.4 of the thesis. The thesis realizes that differentiation can occur at different levels: at the international level between developed and developing countries; and at the regional level between West African countries. However, considering the fact that in terms of food security there is little variance between West African countries, while even the poorer countries of the EU remain much more food secure than any country in West Africa, the framework does not consider intra-regional differentiation. Rather it focuses on differentiations necessary between West Africa and other regions.

Bearing in mind the lack of protection in current IP regulations for traditional knowledge and related genetic resources, that plays a vital role in subsistence farming for food in West

⁸⁷⁴ Brunnee & Toope, *supra* note 886, at 45.

⁸⁷⁵ *Ibid.*

Africa as highlighted in chapters 1-3, the thesis proposed that designing *sui generis* IP law and policy frameworks, that maximize the application of functionalist and differential principles, is of paramount importance to achieving food security in West Africa. This study is the first interdisciplinary research to identify the factors that support food security in West Africa, examine the principles by which to integrate these needs in IP regulation, then design a *sui generis* framework by which to practically apply these principles in the region. The current high levels of food security in West Africa, along with West Africa's participation in new regional and continental IP agreements, make this study useful in solving an urgent problem.

So far, this study affirms that West African food security is best supported by IP regulations that are contextualized to suit the countries and sectors in which they are applied; and which allow for full participation of local interest holders.⁸⁷⁶ This will require IP regulations to contain a wide range of differentiations that support food production, access and distribution in West Africa. In each case, it is the context that determines the forms and extent of variations to be made to IP regulation. Fig. 2 below summarizes the factors identified as crucial for advancing food security in the West African region, and the changes to current regional IP norms required to assimilate these factors. Together, these alterations provide a model framework for IP regulations, treaties and policies that could advance food security in West Africa.

⁸⁷⁶ Olubunmi F. Balogun, "Sustainable Agriculture and Food Crisis in Sub-Saharan Africa", in Mohammed Behnassi, Draggan Sidney & Yaya Sanni, eds, *Global Food Insecurity: Rethinking Agricultural and Rural Development Paradigm and Policy* (New York: Springer Science and Business Media, 2011) 283; Davinder Grover, "Changes in Agricultural Landscape: Some Ecological Implications for Sustainable Agriculture in India Punjab" in Mohammed Behnassi, Draggan Sidney & Yaya Sanni, eds, *Global Food Insecurity: Rethinking Agricultural and Rural Development Paradigm and Policy* (New York: Springer Science and Business Media, 2011) 343.

Table 2. A Model Framework for IP Protection to Advance Food Security in West Africa

Food Security Principle	Suggested IP Variation
1. Protection of smallholder farmers and subsistence agricultural processes	1.1 Advance “ownership” to include farmer’s rights 1.2 Do not subject farmer’s rights to PBRs 1.3 Patent exhaustion to occur with first time of sale (for seeds or genetic resources)
2. Protection of Traditional Knowledge	2.1 Define innovation to include informal inventions 2.2 Recognize collective ownership of IP
3. Increase local innovation and capacity building	3.1 Recognize IP not just as a private property right, but also as a public interest 3.2 Maintain balancing of interests regulations 3.3 Define technology transfer to require local research and development of technology, increase in local capacity building, and increase in value chain
4. Allow greater flexibility in functionalist and differential IP provisions for LDCs and developing countries	4.1 Maintain balancing of interest regulations 4.2 Legislate exceptions and limitations to patents and PBRs for food security purposes 4.3 Maintain differential times for LDCs to adopt Global IP standards.
5. Maintain national policy space	5.1 Adopt principle of national sovereignty 5.2 Holistic interpretation of IP regulations in context of other laws relating to human rights and sustainable development, the CBD and ITPGRFA
6. Support national and intra-regional trade, rather than multilateral trade	6.1 Reduce overlapping laws and multiplicity of regulations 6.2 Allow unbiased local institutions to preside over IP law formulation and implementation. 6.3 Maintain differentiation from global economic systems and IP standards. 6.4 Permit intra-regional differentiation.
7. Allow flexible development models	7.1 Recognize development objectives of IP at par with trade objectives 7.2 Allow for greater differentiation provisions 7.3 Reject ‘one size fits all’ approach to IP and trade regulations 7.4 Provide exceptions and limitations to patents and PBRs for food security

Food Security Principle	Suggested IP Variation
	7.5 Provide sui generis IP regulations under Article 27.3(b) TRIPS, Article 7 & 8 TRIPS, and Article 5 of the Doha Declaration.
8. Transparent and inclusive negotiation processes	8.1 Define necessary stakeholders to include farmers, local private businesses 8.2 Require that necessary stakeholders play an active part in negotiations 8.3 Treaties resulting from biased negotiations should be subject to the principles of multilateral IP regulations, specifically TRIPS Articles 7 & 8, 27.3(b), and the Article 5 Doha Declarations

The principles of the model framework are expanded in detail below.

Type I: Substantive Principles Applicable in Domestic Law

5.2 Protection of Smallholder Farmers, Subsistence Agriculture and Traditional Knowledge

Because of their nature as exclusionary rights, which grants owners the power to prevent others from taking actions,⁸⁷⁷ the proprietary rights granted to IPRs holders through patents and plant variety protection (PVP) may interfere with access to seeds, plants and genetic resources necessary for food security innovations in West Africa. Small scale farmers and local food production are especially vulnerable.⁸⁷⁸ The form of agriculture that supplies the majority of food in West Africa is subsistence agriculture which relies on traditional knowledge, informal innovation and traditional agricultural processes.⁸⁷⁹ As such, for an IP framework to support food security in the

⁸⁷⁷ See Peter Drahos A Philosophy of Intellectual Property, *supra* note 65, at 1-11.
⁸⁷⁸ Correa, “TRIPS Flexibility for Patents and Food Security”, *supra* note 47, at 1.
⁸⁷⁹ Sam Moyo, “Family Farming in Sub-Saharan Africa: its contribution to agriculture, food security and development” (2016) *FAO Working Paper* no.150, at 2-4.

region, it must provide for differential protection of the interests of smallholder farmers, traditional knowledge, informal inventions and local agricultural practices. The variations in IP regulations necessary to achieve this are as follows:

5.2.1 Advance “ownership” to include farmer’s rights and traditional knowledge

Farmers' Rights are recognized as stemming from the enormous contributions that local farming communities have made in the conservation, development and sustainable use of plant and animal genetic resources that constitute the basis of breeding for food and agricultural production.⁸⁸⁰ Farmers' Rights include the right to: the protection of traditional knowledge relevant to plant and animal genetic resources (PGR); equitable sharing of benefits arising from the use of PGR; participate in decision making regarding the conservation and sustainable use of PGR; individually and collectively save, use, exchange and sell seeds and propagating material of farmers' varieties; and to use a new breeders' variety to develop farmers' varieties.⁸⁸¹

Traditional knowledge which is mainly oral and held collectively by a community does not meet the requirements for patentability under the TRIPS or UPOV agreements.⁸⁸² Traditional knowledge is not so-called because of its antiquity. It is a living body of knowledge that is developed, sustained and passed on orally from generation to generation within a community, forming part of its cultural identity. Traditional knowledge is developed through incremental innovation and owned collectively by a community without time limits. Article 27.1 of the TRIPS Agreement grants patent protection only to inventions that are new, non-obvious and industrially

⁸⁸⁰ OAU Model Law, Article 24 (Recognition of Farmers' Rights).

⁸⁸¹ African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, OAU Model Law, Algeria, 2000 [African Model Law], Article 26.1(a)-(f).

⁸⁸² WIPO, “Traditional Knowledge and Intellectual Property” (2015) No.1 *Background Brief*, at 2.

applicable. IPRs are usually granted for a limited duration of time and owned exclusively by individuals. As such, traditional knowledge is not easily protected by the current intellectual property system, which typically grants protection for a limited period to new inventions, by individuals or companies, which have uniform characteristics and are industrially applicable.

To advance food security in West Africa, researchers and policy makers need to acknowledge that traditional knowledge and practices relating to plants and genetic resources (PGR) are the outcome of innovative research undertaken by generations of practitioners in an environment that is not standardized.⁸⁸³ For an IP treaty to advance food security in the region it is important that it recognizes traditional knowledge. This approach is confirmed by the African Union which states that an acceptable system of PBRs protection should include the protection of the “rights of communities and their indigenous knowledge, as well as the rights of farmers and fishermen, and their innovations, technologies and practices”⁸⁸⁴ Recognizing traditional forms of creativity and innovation as protectable intellectual property will enable communities control and benefit from the commercial exploitation of their plants and genetic resources (PGR). It also protects traditional produce against misappropriation.⁸⁸⁵ Dissimilarities between the nature of IPRs and traditional knowledge make it difficult to consider them as intellectual property. In contrast, the traditional knowledge of PGR protected under farmers’ rights are non-exclusive and of unlimited duration. They are held collectively by communities and passed on orally.

Despite these differences, the thesis proposes that PGR resulting from traditional knowledge constitute a protectable form of IP based on the following reasons: Knowledge of local plants did

⁸⁸³ The World Bank, “Local Pathways to Global Development” (2004) *Indigenous Knowledge Notes 30735, Knowledge and Learning Group Africa Region*, at 28, online: <http://documents.worldbank.org/curated/en/981551468340249344/pdf/307350ENGLISH0ik0local0pathways.pdf>.

⁸⁸⁴ Chidi Oguamanam, “Breeding Apples for Oranges”, *supra* note 122, at 168 & 170.

⁸⁸⁵ WIPO, “Traditional Knowledge and Intellectual Property” (2015) No.1 Background Brief, at 1.

not just occur. Farmers have been active participants in observing and selecting the best varieties and have developed them in a manner similar to breeders who are protected by IPR. The forms of IPRs have been developed over the years to suit changing circumstances and industries. These changes are primarily the result of the sovereign will of states. As sovereign states, nothing prevents ECOWAS countries from protecting traditional knowledge as a form of IP. Further, IPRs are functional rights granted to expedite innovation and societal benefit. Traditional knowledge-based invention fulfills this objective. Also, there is no absolute form in which IP must be set. Most IP categories do not have robust subject matter limits, and often what one category of IP law disallows finds a home in another. Inventions using genetic resources associated with traditional knowledge may be patentable or protected by plant breeders' rights.⁸⁸⁶ Multiple-authorship is becoming common in contemporary IPRS. Lengthier terms are being granted for IP protection.

However, it must be acknowledged that current regulations for IP protection are not suitable for protecting PGR based on traditional knowledge. Also, the provisions for farmers' rights and traditional knowledge protection in the ITPGRFA do not significantly counterbalance the effect of IPR in the PGRs arena, nor support food security in indigenous and local communities.⁸⁸⁷ Consequently, the protection of traditional knowledge will require the development of a *sui generis* alternative system for IP protection. The certificate system under the African Model Law illustrates how *sui generis* protection may be provided for local plant varieties in West Africa, as farmers can certify their varieties as intellectual property without meeting the criteria of distinction, uniformity, and stability pursuant to PBR. The certificate provides farmers with "the exclusive rights to

⁸⁸⁶ *Ibid*, at 5.

⁸⁸⁷ Chidi Oguamanam, "Intellectual Property Rights in Plant Genetic Resources: Farmers' Rights and Food Security of Indigenous and Local Communities" (2006) 11 *Drake Journal of Agricultural Law*, 273 at 277. [Oguamanam, IPR in Plant Genetic Resources].

multiply, cultivate, use or sell the variety, or to license its use.”⁸⁸⁸ Farmers are also given the right to “obtain an equitable share of benefits arising from the use of plant and animal genetic resources.”⁸⁸⁹ Because traditional knowledge relating to plants is often held collectively by communities, Article 66 of the African Model Law also allows for the development of a Community Gene Fund to bring about benefit sharing and to be financed by royalties fixed to registered breeders’ varieties. Thirdly, farmers are guaranteed an exemption to PBRs so they can “collectively save, use, multiply, and process farm-saved seed of protected varieties.”⁸⁹⁰ Fourthly, farmers’ varieties are to be certified as being derived from “the sustainable use of a biological resource.”⁸⁹¹ The latter provision helps protect the biodiversity available in West Africa’s crops, and to prevent such knowledge from being pirated.

5.2.2 Do not subject farmers’ rights to PBRs

Breeding is a cumulative science protected by PBR, which makes seeds and other agricultural material the subjects of property rights.⁸⁹² The spread of IP protection over such innovations has meant that farmers’ ownership of PGR is often covered by a large number of IPRs. Existing multilateral and regional IP regulations tend to focus mainly on facilitating cross-border trade in commercial seeds and protecting the rights of plant-breeders, while neglecting the rights of farmers who, for centuries, have nurtured and provided free access to seed and relied on the informal trade of seed and plant varieties.⁸⁹³ Hence, these regulations undermine the rights of farmers to use,

⁸⁸⁸ African Model Law, Article 25.

⁸⁸⁹ African Model Law, Article 26.

⁸⁹⁰ African Model Law, Article 26.1(e).

⁸⁹¹ African Model Law, Article 27.

⁸⁹² World Bank Group & OECD, “IP and Innovation in Agriculture-How is IP Related to Agricultural Innovation?” (2013) *The Innovation Policy Platform*, online:< <https://www.innovationpolicyplatform.org/content/ip-and-innovation-agriculture>>.

⁸⁹³ B.D. Wright & P.G. Pardey, “The Evolving Rights to Intellectual Property Protection in the Agricultural Biosciences” (2006) 2:1-2 *International Journal of Technology and Globalisation*, at 12-29.

exchange and sell farm saved seeds. PBR can have further detrimental effects on smallholder farmers by forcing them to purchase costly commercial varieties such as hybrid seeds which require costly agro-chemical inputs to deliver the expected higher yields.

Olivier de Schutter, ex-UN Special Rapporteur on the Right to Food, warns that:

the professionalisation of breeding and its separation from farming leads to the emergence of a commercial seed system, alongside the farmers' seed systems through which farmers traditionally save, exchange and sell seeds, often informally. This shift has led to grant temporary monopoly privileges to plant breeders and patent-holders through the tools of intellectual property, as a means to encourage research and innovation in plant breeding. In this process, however, the poorest farmers may become increasingly dependent on expensive inputs, creating the risk of indebtedness in the face of unstable incomes.⁸⁹⁴

For IP regulations to foster food security in West Africa, specific exceptions should be granted to farmers to ensure that their rights are not infringed by the rights of breeders. For example, the elaboration of farmers' rights in Article 26.3 of the African Model Law requires that: "Breeders' Rights on a new variety shall be subject to restriction with the objective of protecting food security, health, biological diversity and any other requirements of the farming community for propagation material of a particular variety."

5.2.3 Provide exceptions to PBRs to increase biodiversity

The TRIPS criteria for plant variety protection (distinctiveness, uniformity, stability, and novelty) are good for the seed industry but extremely dangerous for African farmers whose productivity depends on seed diversity rather than uniformity.⁸⁹⁵ Invasive scientific practices lead to product

⁸⁹⁴ Olivier de Schutter, "2009 Seed Policies and the Right to Food: Enhancing Agrobiodiversity and Encouraging Innovation", in APRODEV, "Seeds and Food Security: The Impact of EU Seed Laws on Food Security in Africa" *APRODEV PCD Discussion Paper on Seeds and Food Security*, December 2014, at 4-5.

⁸⁹⁵ Kuyek, IPRs in African Agriculture, *supra* note 433, at 11.

uniformity, while farming based on traditional knowledge supports natural processes and biodiversity. The move towards sustainable agriculture and the realisation of the right to food cannot be achieved without protecting the rights of farmers and the diverse varieties of seeds under their custodianship. NGOs have raised concerns about IP protection systems in which the rights of commercial breeders take precedence over those of farmers and which neglect to support the contribution farmers make to strengthen biodiversity conservation and food security.⁸⁹⁶

Proponents claim that patents and PVP increase food security by providing incentive for the development of “improved varieties.” However, often the varieties developed under IPRs are not local food crops, but rather extraneous commercial varieties. One study found a tendency for multinational seed companies in Africa to popularize a few high-yielding hybrids among wealthier farmers, than to devote resources to developing varieties required by small-scale poorer farmers.⁸⁹⁷ Considering the important role that utility plays in attaining food security, the development of local and new varieties by domestic farmers and researchers, with knowledge of the preferences of a locality, is more likely to be utilized than extraneous breeds. The ability of farmers to carry out such innovation should be protected.

As IPRs are couched as mandatory rights, it is necessary for obligatory exceptions and limitations to be provided to breeder’s rights to maintain biodiversity. Such an exemption is provided in Article 31.1 of the African Model Law which states that: Notwithstanding the existences of Plant Breeders' Rights in respect of a plant variety, any person or farmers' community may propagate, use and grow plants or propagating material of the variety; and obtain access to plant varieties and related genetic material for home consumption, further breeding and research.

⁸⁹⁶ Olivier de Schutter, *supra* note 908, at 5.

⁸⁹⁷ Joseph DeVries & Gary Toeniessen, *Securing the Harvest: Biotechnology, Breeding and Seed Systems for African Crops* (London: CABI, 2001), at 21.

The opportunities to experiment will grant West African farmers greater freedom to combine local plant and IP protected plant varieties in innovation processes. Also, “Farmers will be free to save, exchange and use part of the seed from the first crop of plants which they have grown for sowing in their own farms to produce a second and subsequent crops subject to conditions specified in Part V, the Farmers' Rights Part of this Act.”⁸⁹⁸

Where the Government considers it necessary for reasons of the public interest, the PBR in respect of a new variety shall be subject to limitations. These restrictions may be imposed, where problems with competitive practices of the IPRs holder are identified; food security or nutritional or health needs are adversely affected; a high proportion of the plant variety offered for sale is being imported; the requirements of the farming community for propagating material of a particular variety are not met; and where it is considered important to promote public interest for socio-economic reasons and for developing indigenous and other technologies.⁸⁹⁹

5.2.4 Patent exhaustion to occur with first time sale (of seeds or genetic resources)

The principle of patent exhaustion addresses the question of whether the holder of a patent has the right to control a patented product after it has been sold. The classical doctrine of patent exhaustion provides that “the initial authorized sale of a patented item terminates all patent rights to that item.”⁹⁰⁰ The unrestricted sale of a patented article, by or with the authority of the patentee, is said to “exhaust” the patentee’s right to control further sale and use of that article by enforcing the patent under which it was first sold.⁹⁰¹ “Under the doctrine of patent exhaustion, the authorized sale of a patented article gives the purchaser, or any subsequent owner, a right to use or resell that

⁸⁹⁸ African Model Law, Article 31.2.

⁸⁹⁹ African Model Law, Article 33.1.

⁹⁰⁰ *Quanta Computer, Inc. v. LG Electronics, Inc.* (2008) 553 U.S. 617 at 625.

⁹⁰¹ See *Intel Corp. v. ULSI Sys. Tech., Inc.* (1993) US Fed. Cir., 995 F.2d 1566, 1568; 27 USPQ2d 1136, 1138.

article.”⁹⁰² The patentee holds no rights in that particular product—it becomes the personal property of the buyer.⁹⁰³ Exhaustion continues to be a contentious issue in international IP law.⁹⁰⁴ No agreement was obtained between the WTO members regarding the principle of exhaustion in TRIPS.⁹⁰⁵ The first-sale doctrine strikes the appropriate balance between the rights of patent owners and the personal property rights of IP Users, as it ends the patent owner’s ability to control the further disposition of the sold article, transferring control to the Users. Allowing such checks on patent rights promotes competition and ensures that the sold articles may be used in the most efficient way possible.⁹⁰⁶

In *Bowman v. Monsanto Co.*,⁹⁰⁷ the US Supreme Court addressed the issue of how the patent-exhaustion doctrine and post-sale restrictions apply to patented seeds, which by their very nature self-replicate when planted and create new seeds that are genetically similar to the original patented seed.⁹⁰⁸ The Court determined that Monsanto’s rights were not exhausted after the first sale of its patented seeds, solidifying the exception to the first-sale doctrine created by the United States Court of Appeals for the Federal Circuit.⁹⁰⁹ The *Bowman* decision leaves much to be desired in the larger context of how to protect the public from the overreach of patent holders asserting strong downstream control of their products, particularly with technology that has such a profound impact

⁹⁰² *Bowman v. Monsanto Co.* (2013) 133 S. Ct., 1761 at 1764.

⁹⁰³ See *Bloomer v. McQuewan* (1853) 55 U.S. (14 How.) 539, at 550 (holding patented articles become personal property of buyer). The Court stated that, “when the machine passes to the hands of the purchaser, it is no longer within the limits of the monopoly. . . It passes outside of it . . .” *Id.* at 549; see *Adams v. Burke*, 84 U.S. (17 Wall.) 453, 457 (1873) (holding patentee cannot prohibit third-party purchaser from using patented article).

⁹⁰⁴ Gene Quinn, “CAFC Reaffirms Patent Exhaustion Doctrine Cases en banc in *Lexmark Int’l v. Impression Products*”, *IP Watchdog*, 21 February 2016. Online at: < <http://www.ipwatchdog.com/2016/02/21/cafc-reaffirms-patent-exhaustion-doctrine-lexmark-v-impression-products/id=66314/>>.

⁹⁰⁵ TRIPS, Article 6.

⁹⁰⁶ Joseph Roth, “Exhaustion Cannot Stifle Innovation: A Limitation on the First Sale Doctrine” (2015) 5 *UC Irvine Law Review* 1231, at 1271.

⁹⁰⁷ 133 S. Ct. 1761 (2013).

⁹⁰⁸ *Ibid.* at 1764.

⁹⁰⁹ *Ibid.* at 1769 (stating “patent exhaustion provides no haven for [farmer’s] conduct”).

on our food supply and health.⁹¹⁰ Since that decision, Monsanto's dominance of the global seed market has greatly increased, reducing competition. As such, it is important for ECOWAS IP policy to provide the region's smallholder farmers' effective protection against larger seed corporations, by providing for first time exhaustion in IP regulations, so as to prevent abuses from large seed companies.⁹¹¹

To advance food security in West Africa, it is suggested that ECOWAS patent law and policy adopts first sale exhaustion (where patent rights are exhausted upon initial authorized sale) because it limits IP owners' power to price patented goods above the competitive level and increases consumer access to intellectual goods through secondary markets (such as rental) or parallel trade.⁹¹² This promotes competition and incremental innovation.⁹¹³ The efficiency of patent exhaustion varies depending on the industry, technology and product of concern.⁹¹⁴ In contextualising exhaustion to West Africa's food agriculture, the following considerations are relevant: Firstly, because the costs of licensing biotechnology are significant in West Africa, first sale patent exhaustion is preferable because it does not permit the patent holder to require direct licences from downstream consumers.⁹¹⁵ Secondly, considering the lack of access to information by IP institutions and users in West Africa, the regime of first sale patent exhaustion would be more efficient.⁹¹⁶ Thirdly, West Africa's food agricultural sector is dominated by informal inventions, traditional knowledge and small scale farmers. If these sectors are prioritized, then first

⁹¹⁰ Kristen Salvaggio, "Patent Law: First Sale Doctrine Does Not Extinguish Patentee's Rights in Self-Replicating Organisms- *Bowman v. Monsanto Co*" (2014) 47:2 *Suffolk University Law Review*, 451 at 461.

⁹¹¹ *Ibid.*, at 460-461.

⁹¹² Ariel Katz, "Digital Exhaustion: North American Observations", in John Rothchild, ed., *Research Handbook on Electrical Commerce Law* (Edward Elgar, 2016) 137.

⁹¹³ Aaron Perzanowski & Jason Schultz, "Digital Exhaustion" (2011) 58:4 *UCLA Law Review* 889, at 894-897; Herbert J. Hovenkamp, "Post Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective" (2011) 66 *N.Y.U. Ann. Surv. Am. L.* 487, at 503-504.

⁹¹⁴ Olena Ivus, "Patent Exhaustion in the United States and Canada", *CIGI Papers* No.159, January 2018, at 10.

⁹¹⁵ *Ibid.*

⁹¹⁶ *Ibid.*, at 10-11.

sale exhaustion is proposed as a better choice, as it will reduce the costs of accessing useful biotechnology for innovation that supports food security by downstream entities.⁹¹⁷

5.2.5 Define innovation to advance informal inventions, technology transfer and capacity building

Innovation can be defined as the application of new ideas to the products, processes, or other aspects of the activities of a firm that lead to increased ‘value’.⁹¹⁸ Generally, innovation takes place in two forms, product and process innovation. Product innovation refers to the introduction of a new product or a significant improvement in the quality of an existing product, while process innovation refers to the introduction of a new process for making or delivering goods and services.⁹¹⁹ Technology transfer is defined as the process of deliberate and systematic sharing of equipment and machinery, technology, skills, knowledge, intellectual property rights, business and organizational processes, designs and facilities, for the manufacture of a product, for the application of a process or for the rendering of a service.⁹²⁰

The United Nations and the African Union have identified innovation and technology transfer as playing an important role in developing African countries.⁹²¹ In West Africa, the development, transfer and adoption of local biotechnology is likely to result in a quantum increase in agricultural productivity, enabling West Africa to tackle its food insecurity and reduce its

⁹¹⁷ Olena Ivus, *supra* note 928, at 11-12.

⁹¹⁸ Neil Foster, “Innovation and Technology Transfer Across Countries” (2012) *The Vienna Institute for International Economic Studies Research Reports* 380, August 2012, at 3, online: < <https://wiiw.ac.at/innovation-and-technology-transfer-across-countries-dlp-2639.pdf>>.

⁹¹⁹ *Ibid.*

⁹²⁰ UNESCO & AU, “Innovation and Technology Transfer for Enhanced Productivity and Competitiveness in Africa” (2014) *Background Paper*, Seventh Joint Annual Meetings of the ECA Conference of African Ministers of Finance, Planning and Economic Development and AU Conference of Ministers of Economy and Finance, Abuja Nigeria, 29th-30th March 2014, E/ECA/CM/47/4, AU/CAMEF/MIN/4(IX), 5th March 2014, Par. 3 [UN & AU, ITT 2014].

⁹²¹ UN & AU, ITT 2014, par 4.

dependence on food imports.⁹²² Because local agriculture is based on traditional knowledge, to advance food security in West Africa it is necessary that IP laws recognize traditional knowledge and informal innovation as protectable forms of inventions.

The need to define innovation to include informal inventions is reflected in Part II of the African Model Law, which states that “Innovation is any generation of a new, or an improvement of an existing, collective and/or cumulative knowledge or technology through alteration or modification, or the use of the properties, values or processes of any biological material or any part thereof, whether documented, recorded, oral, written or in whatever manner otherwise existing.”⁹²³ Protecting informal innovation in West Africa will be enhanced by provisions in IP regulations for access and benefit sharing, prior informed consent and farmers’ rights in connection with traditional knowledge and related PGR.

Article 66 of the TRIPS agreement requires that IP protection facilitate technology transfer. However, the question of what acts constitutes a transfer of technology and when it can be said to have occurred remain elusive. The hypothesis of this study views technology transfer as processes and acts that advance the innovative capability of local farmers and scientists for domestic production, rather than just the importation of IP protected technology.⁹²⁴ Informal channels of technology transfer include imitation; the movement of personnel from one firm to another taking with them specific knowledge of their original firm’s technologies; data in patent applications and the temporary migration of people, such as scientists and students to universities and research institutes in advanced countries. What is specific to the informal transfer is that there is no formal compensation to the original owner of the technology transferred.⁹²⁵ Keeping such channels

⁹²² UN & AU, ITT 2014, par 5.

⁹²³ African Model Law, Arts 3.2 and 5.1-2.

⁹²⁴ Foster, *supra* note 932, at 47; Park & Lippoldt, *supra* note 96, at 29.

⁹²⁵ Foster, *supra* note 932, at 44.

available through provisions for open access are beneficial to informal invention and reverse engineering.

A large portion of the biotechnology accessible to West African countries, including local plant breeds, remains unutilized due to the lack of local capacity.⁹²⁶ A 2014 report issued by the United Nations emphasizes that local capacity building involves two things: “1) recognizing and understanding innovation capacity within communities and 2) putting these communities and local systems at the heart of the innovation process.”⁹²⁷ Capacity building is also advanced by encouraging partnerships between scientists and local farmers. For example, in Nigeria, the International Institute for Tropical Agriculture (IITA) has successfully developed improved varieties of cassava, yams and other local crops in collaboration with local farmers. Efforts are also made by the organization to create awareness of the improved varieties and to ensure that they remain affordable and accessible to local farming communities.⁹²⁸

In building capacity, it is important to focus on building the capacities of the most vulnerable members of society, especially women and children. Case studies exist of women successfully advancing their skills by formation of a traditional corporative, which allows for open access to knowledge.⁹²⁹ Such examples illustrate that advancing invention and capacity building in West Africa does not have to be initiated based on exogenous technology⁹³⁰ or western norms of IP

⁹²⁶ R.J. Hillocks, J.M. Thresh & A.C. Bellotti, eds, *Cassava: Biology, Production and Utilization* (New York: CABI Publishing, 2002) at 47.

⁹²⁷ Alexander Betts & Louise Bloom, “Humanitarian Innovation: The State of the Art.”, in Lesley Bourns & Daniel Gilman, eds, *OCHA Policy and Studies Series* (New York: United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 2014) at 19.

⁹²⁸ James Legg, “Developing Clean Seed Systems for Cassava” IITA R4D Review, 13 April 2011; Tahirou Abdoulaye *et al.*, “Awareness and Adoption of Improved Cassava Varieties and Processing Technologies in Nigeria” (2014) 62:2 *Journal of Development and Agricultural Economics* 67.

⁹²⁹ See Joel R. Mathews, “Understanding Indigenous Innovation in Rural West Africa: Challenges to Diffusion of Innovations Theory and Current Social Innovation Practice” (2017) 18:2 *Journal of Human Development and Capabilities*, 223 at 227.

⁹³⁰ Endogenous innovations (farmer innovations) can be distinguished from exogenous innovations (innovations derived from research, extension, private companies, and agribusiness, etc.) See The Sahel and West Africa Club

protection. IP regulations will need to be reviewed to support open access and collective ownership for capacity building in West Africa.

5.3 Allow Greater Flexibility in Differential IP Provisions for LDCs and Developing Countries

Flexibility refers to the room for variance granted to Parties to a treaty in the implementation of their obligations.⁹³¹ The most prolific flexibilities in multilateral and regional IP regulations are granted for Least Developed Countries (LDCs). For example, par. 6 of the Preamble to the TRIPS Agreement recognizes “...the special needs of the least-developed country Members, in respect of maximum flexibility in the domestic implementation of laws and regulations in order to enable them to create a sound and viable technological base.” Differential application of IP regulations is also recognized in Article 66.1 of TRIPS, which grants LDCs extra time to adopt TRIPS standards. The WTO Doha Declaration highlights that flexibility is an important ingredient for the utilization of IP regulations in developing countries. This emphasises the acceptance of differentiation by IP systems and the need not to treat countries of different socio-economic capacities in a similar manner.

Considering the fact that the majority of countries in West Africa are classed as LDCs, IP regulation in the region should be structured flexibly to allow for maximum differentiation so as to accommodate the national food security and development interests of West African states at any given point. However, despite being classed as ‘developing countries’, the largest economies in the region face the same challenges in food security as the LDCs. Hence, it is suggested that some

(SWAC) & OECD, “The Family Economy and Agricultural Innovation in West Africa: Towards New Partnerships”, *SWAC Overview*, March 2005, SAH/D(2005)550, at 16.

⁹³¹ WIPO, “Meaning of Flexibilities” WIPO doc. CDIP/5/4/Rev.

of the exceptions granted to LDCs, be also extended to developing countries in West Africa. For it is unrealistic to continue placing the same conditions for IP protection on developing countries in West Africa (like Nigeria and Ghana), as those placed on developing economies like China and India. A better categorization would be to provide special flexibilities to all countries in Sub-Saharan Africa. Strategies useful for enhancing flexibility in IP regulations include the following:

5.3.1 Maintain balancing of interest regulations

Balancing of interests is acknowledged as an important aspect of multilateral IP regulations in Article 7 of the TRIPS Agreement. However, maintaining balance of interest has proved difficult. While the IP provisions regarding the obligations of countries to protect rights holders are detailed and aimed at a high level of protection, the few rules in IP treaties that deal with other social interests (such as human rights, competition, compulsory licenses, etc) as a balancing instrument to IPRs are less detailed and often optional. For West African states that are mostly importers rather than producers of technology, and where food security and creating employment for smallholder farmers remain top priorities, the thesis recommends that mandatory flexibilities be adopted which prevent the use of IPRs to the detriment of food security and other public interest considerations. More specific and obligatory balancing instruments include provisions for farmers' rights, transition periods for LDCs, exceptions and limitations to IPRs and unfair competition rules.⁹³²

Balancing must also take place between regional and global IP and trade interests. Historically, countries have adopted stronger IPRs only when it is in the interests of domestic

⁹³² TRIPS, Article 31.

enterprises and technology.⁹³³ West African countries should learn from the experiences of BRICS economies like India, whose initial refusal to apply IP laws to medicines has been credited with the growth of the pharmaceutical industry in the country. Similarly, China's non-adoption of WTO TRIPS standards, which enabled local companies to begin production of their own technologies through reverse engineering and copying, has been credited for helping the country to becoming a major player in international trade.⁹³⁴

5.3.2 Legislate exceptions and limitations to patents and PBRs for food security purposes

By allowing for consideration of social and non-economic objectives in IP regulations, exceptions and limitations to patents and PBRs provide important tools for balancing the private economic interests contained in IPRs with public interests. To enhance flexibility, ECOWAS treaties should not limit themselves to considering exceptions provided under IP regulations, but also include exceptions to IPR based on the provisions of the ITPGRFA, the CBD, and the African Model Law. ECOWAS states should utilize the exception provided under Article 27.3(b) of TRIPS to develop a sui generis framework for IP protection more suited for the region's food security needs. Exceptions and limitations can take the following forms:

(a) Exclusions from patentability: Nothing in TRIPS obliges members to follow an expansive approach regarding the patenting of life forms. Rather, the provisions of Articles 27.2 and 27.3 TRIPS permit countries to “exclude from patentability inventions, the prevention within their

⁹³³ World Bank Group, *Global Economic Prospects: Darkening Skies* (2019), online: <<http://siteresources.worldbank.org/INTGEP2002/Resources/05--Ch5--128-151.pdf>>, at 130.

⁹³⁴ Ronald O'Leary, “Flexibility and Balance: Solutions to the International IP Problem” (2017) 16:2 *Journal of International Business and Law* 275 at 279.

territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment.” Access-related problems in relation to patents on plant varieties or processes would partly be solved if ECOWAS states formulated domestic and regional IP regulations that exempted the total patenting of substances existing in nature, such as genes, cells or entire plant varieties; along with essentially biological processes.⁹³⁵ The sensitive products list in the EPA could be expanded to exclude genetic resources and processes related to such essential foods from patents or PBRs.

(b) Expanding public interest exceptions: TRIPS Article 30 provides for limited exemptions to the exclusive rights conferred by a patent. West African countries should take advantage of this by providing research exemptions in their domestic laws to enable their public sector agricultural research to continue without the threat of infringing on patents. Activities like the sharing of knowledge by local farming cooperatives (open access); and the exchange of seeds between subsistence farmers; and research activities to create new plant varieties should be specified as private activities, with no immediate or direct commercial application, that do not prejudice the legitimate interests of the holders of patents or PBRs. Specific exceptions should also be granted for farmers’ rights. Farmers should be able to use propagated or reproduced biological material under patent protection, if it is used for the purposes for which it was sold, i.e., agricultural use. This exception will allow the farmer to use a part of the harvest product again for planting even if

⁹³⁵ Jeannette Mwangi, “TRIPS and Agricultural Biotechnology: Implications for the Right to Food in Africa”, in Mpazi Sinjela, ed, *Human Rights and Intellectual Property Rights: Tensions and Convergences*, (Leiden/Boston: Martinus Nijhoff Publishers, 2007) 241, at 285.

the propagating material is patented, since the seeds are intended for agricultural use and were sold for this purpose.⁹³⁶

(c) Maintaining multilateral flexibilities: Flexibilities exist regarding: (i) Conditions for patentability as stipulated in Article 27(1) of TRIPS; (ii) Scope and interpretation of claims; (iii) Access to samples of patented materials; (iv) Compulsory licensing as allowed in Article 31 of TRIPS. TRIPS does not limit the grounds for the grant of compulsory licences, but establishes the conditions under which the grant may take place; (v) Revocation of patents and controlling access to genetic resources under the CBD and the FAO Treaty; and (vi) Experimental use and public health exceptions in Article 30 TRIPS.

(d) *Sui generis* protection of plant varieties: A *sui generis* system for the protection of plant varieties would allow African countries to develop alternative systems for IP protection which are suited to their needs. The *sui generis* PVP system envisaged should first seek to foster food security for all and not contribute to food insecurity. A *sui generis* system should also be all encompassing, taking into account relevant provisions in other multilateral treaties.

5.4 Adopt a Pro-Development Approach to IP Protection

The provisions of the WIPO Development Agenda⁹³⁷ and the WTO Doha Declaration represent a paradigm shift that acknowledges the need to factor development interests in IP regulation. The definition of development can be shaped and formed to suit different stakeholders' interests in

⁹³⁶ WIPO Standing Committee on the Law of Patents, "Exceptions and Limitations to Patents Rights: Patents and/or Breeder's Use of Patented Inventions", 19th August 2014, SCP/21/6, par. 11.

⁹³⁷ WIPO, *The WIPO Development Agenda*, October 2007 WO/GA/34/16.

different contexts.⁹³⁸ Evaluations of IP policy in Africa emphasizes that the strengthening of IP protections and increasing open access to markets, may not lead to development in African countries.⁹³⁹ Thus, harnessing IP treaties to advance West African development requires greater flexibility to incorporate domestic development interests by expanding the differentiation principle in regional IP regulations and policies. The following tools will be useful for adapting IP regulations to support development in West Africa:

5.4.1 Recognize development objectives of IP at par with trade objectives

Article 7 of the WTO-TRIPS Agreement, Objectives, states that “The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the *transfer and dissemination of technology*, to the *mutual advantage of producers and users* of technological knowledge and in a manner conducive to *social and economic welfare*, and to a *balance of rights and obligations*.”⁹⁴⁰ The use of phrases like the transfer and dissemination of technology, to the mutual advantage of users as well as producers of technology, along with social and economic welfare, in the objectives indicate that IPRs are not granted solely for economic or trade purposes, but are to fulfill social objectives as well. Thus, consideration of public interest objectives, at par with private rights, will aid the effective interpretation of IP provisions to advance holistic development.⁹⁴¹

⁹³⁸ Jeremy de Beer, “Defining WIPO’s Development Agenda”, in Jeremy de Beer, ed, *Implementing the World Intellectual Property Organization’s development agenda* (Waterloo, ON: Wilfred Laurier University Press, 2009) 1-23, at 10.

⁹³⁹ Ncube, The Development of Intellectual Property Policies in Africa, *supra* note 881, at 1-2.

⁹⁴⁰ TRIPS, Article 7 [emphasis added].

⁹⁴¹ UNCTAD-ICTSD, *Resource Book on TRIPS and Development*, *supra* note 163, at 124.

5.4.2 IP Provisions should support sustainable development goals.

Sustainable development has been defined as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*".⁹⁴² Sustainable development is mentioned in the preamble of WTO agreements as an overarching goal which the treaty should contribute to, and is provided for in the CBD and ITPGRFA. As explained in the UN's Sustainable Development Goals [SDG's] (2015), to which West African countries are signatories, the SDGs include right to food concerns as SDG 2 calls for an end to hunger by 2030, and includes a mandate for sustainable agricultural production.⁹⁴³ Sustainable development requires the balanced reconciliation and integration of economic, environmental and social priorities.⁹⁴⁴ The SDGs places on countries the responsibility to strengthen the interdependent and mutually reinforcing pillars of sustainable development (economic development, social development and environmental protection) in IP regulations.⁹⁴⁵

As an overarching objective of WTO regulations, sustainable development "must add colour, texture and shading to our interpretation of the Agreements annexed to the WTO Agreement."⁹⁴⁶ Similarly, interpretations of IP regulations must be consistent with the economic justice and human rights values embodied in the sustainable development agenda that Africa has set for itself in regional treaties,⁹⁴⁷ as well as by signing up to the UN's international sustainable development

⁹⁴² UN, "Our Common Future", Report of the World Commission on Environment and Development, UN Doc. A/42/427-Annex, 4 August 1987, at 43.

⁹⁴³ UN, *Sustainable Development Goals*. Online at: <<https://sustainabledevelopment.un.org/sdgs>> (accessed 5 March 2017).

⁹⁴⁴ Segger & Gehring, *supra* note 323, at 1 at 5.

⁹⁴⁵ *Johannesburg Declaration on Sustainable Development*, adopted at the 17th plenary meeting of the World Summit on Sustainable Development, on 4 September 2002 [Johannesburg Declaration].

⁹⁴⁶ *United States — Import Prohibition of Certain Shrimp and Shrimp Products* (1998) WT/DS58/AB/R, adopted 6 November 1998, paras 152-153; and *United States — Shrimp — Recourse to Article 21.5 by Malaysia*, WT/DS58/RW, adopted 15 June 2000.

⁹⁴⁷ Examples include the AU's, *Agenda 2063 – The Africa We Want* (Addis Ababa: AU Commission, 2015), note 289, paras 13 and 72. See also Paras 9, 66(c) and (d), 67 stressing the need to eradicate poverty. Online at: <<http://www.un.org/en/africa/osaa/pdf/au/agenda2063.pdf>>; and the *Africa Charter on Human and Peoples' Rights*.

goals.⁹⁴⁸ The need to consider sustainable development principles in interpreting IP and trade treaties has been confirmed in multilateral jurisprudence.⁹⁴⁹ This requires balancing the economic objectives of IP, with its social and environmental functions in interpreting IP regulation.⁹⁵⁰ Since no specific method is prescribed in IP regulations by which to attain sustainable development, states retain substantial discretion in giving effect to a sustainable development objective.⁹⁵¹

5.4.3 Require IP regulations to support public health

On 14 November 2001, the WTO Ministerial Conference in Doha adopted the Ministerial Declaration on the TRIPS Agreement and Public Health (Doha Declaration).⁹⁵² The document reflects the desire to bring in the development dimension more strongly in IP regulation. In paragraph 4 of the Doha Declaration, parties affirm that the TRIPS Agreement “can and should be interpreted and implemented in a manner supportive of WTO members' right to protect public health and, in particular, to promote access to medicines for all.” In harnessing TRIPS to uphold public health, the Declaration reaffirms “the right of WTO members *to use, to the full*, the provisions in the TRIPS Agreement, which provide flexibility for this purpose.”⁹⁵³ The provision advocates ‘maximum’ rather than ‘minimum’ differentiation as a right for all WTO states. Among the flexibilities acknowledged in para.5 are the requirement for TRIPS provisions to be interpreted in light of its objectives and principles (Articles 7-8 TRIPS); and the right of member states to

⁹⁴⁸ United Nation’s Economic Commission for Africa (ECA), “The Continental Free Trade Area (CFTA) in Africa: A Human Rights Perspective”, a *Joint Report* of the African Trade Policy Centre (ATPC) and the Friedrich-Ebert-Stiftung (FES), 2 November 2017, at 33.

⁹⁴⁹ *United States — Import Prohibition of Certain Shrimp and Shrimp Products* (1998) WT/DS58/AB/R, adopted 6 November 1998, paras 152-153; and *United States – Shrimp – Recourse to Article 21.5 by Malaysia*, WT/DS58/RW, adopted 15 June 2000.

⁹⁵⁰ *Gabcikovo-Nagymaros Project* (Hungary v. Slovakia), 25 September 1997, ICJ Reports 1997, 7, at 75.

⁹⁵¹ Ruse-Khan, Sustainable Development in International Intellectual Property, *supra* note 351, at viii.

⁹⁵² *Declaration on the TRIPS Agreement and Public Health*, WT/MIN(01)/DEC/2, 20 November 2001 [Doha Declaration].

⁹⁵³ Doha Declaration, Para.4 [emphasis added].

grant compulsory licenses, determine what constitutes a national emergency, and the conditions for patent exhaustion. Paras 6-7 of the Doha Declaration asks the TRIPS Council to find solutions to help countries with insufficient capability to manufacture pharmaceuticals, and extends the time for Least Developed Countries (LDCs) to implement patent protection pursuant to Article 66 TRIPS.

Though the Declaration is not legally binding, as a subsequent WTO agreement under Article 31.3(a) VCLT, it is relevant for the interpretation of current IP regulations and policies and for the formation of future IP treaties. It is necessary to emphasize that the Doha Declaration is not self-executing and countries should adopt the legal amendments necessary to implement it. Subsequently, the differentiation principle contained in the Doha Declaration will have more weight if specifically enacted or referenced in West Africa's regional IP regulations and agreements.

5.4.4 Reject 'one size fits all' approach to IP and trade regulations

The African Group has emphatically stated that for IP regulation to advance development in West Africa it must be contextualized to suit a country's socioeconomic condition and development goals.⁹⁵⁴ This perspective is reflected in Para 7 of the African proposal for the establishment of a development agenda for WIPO which states that:

IP is just one mechanism among many for bringing about development. It should be used to support and enhance the legitimate economic aspirations of all developing countries including LDCs, especially in the development of their productive forces, comprising of both human and natural resources. IP should therefore, be complimentary and not detrimental to

⁹⁵⁴ WIPO Standing Committee on the Law of Patents, "Proposal by the African Group for a WIPO Work Program on Patents and Health", SCP/24/4, 29th June 2016 (24th Session, Geneva), Par.21.1.

individual national efforts at development, by becoming a veritable tool for economic growth.⁹⁵⁵

Provisions for contextual differentiation may be justified based on the WIPO Development Agenda recommendations relating to IP and development.⁹⁵⁶ The WIPO Development Agenda makes development a primary consideration in guiding technical assistance and financial allocation in WIPO, and promotes, a “development-oriented intellectual property culture.”⁹⁵⁷ The agenda recommends that for IP regulations to advance development, special provisions must be made to support small and medium-sized enterprises (SMEs), research institutions, and anti-competitive practices in developing countries and Least Developed Countries (LDCs).⁹⁵⁸

The agenda highlights the importance of allowing for flexibilities and special and differential treatment for IP regulation to support development. For example, under par. 14, WIPO shall make available advice to developing countries and LDCs, that will aid “the understanding and use of flexibilities contained in the TRIPS Agreement”.⁹⁵⁹ Further, in par. 17 the agenda states that: “WIPO should take into account the flexibilities in international intellectual property agreements, especially those which are of interest to developing countries and LDCs.” The Development Agenda provides a foundation for African countries to adopt reforms to IP laws and policies so as to achieve regional development objectives, including food security.⁹⁶⁰

5.4.5 Provide exceptions and limitations to patents and PBRs for food security

Article 30 of the TRIPS Agreement, the general exception clause, grants WTO member states flexibility to provide limited exceptions to IPRs, suitable to accomplish the multiple social,

⁹⁵⁵ WIPO Doc IIM/3/2 Rev, 31 July 2005.

⁹⁵⁶ WIPO, *The WIPO Development Agenda*, October 2007, WO/GA/34/16. [WIPO Development Agenda].

⁹⁵⁷ WIPO Development Agenda, para. 3.

⁹⁵⁸ WIPO Development Agenda, paras 4 & 7.

⁹⁵⁹ WIPO Development Agenda, para. 14.

⁹⁶⁰ Jeremy de Beer & Sara Bannerman, “Foresight into the Future of WIPO’s Development Agenda, *supra* note 253.

economic, and environmental objectives of the agreement, including interests connected with human rights like the right to food and food security.⁹⁶¹ Similarly, Article 27.2 of the TRIPS Agreement provides countries the option of refusing patents where “necessary to protect public order or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment.” The public health exception indicates that IP protection, food security, nutrition, clean environments and public health have a symbiotic relationship. Because access to adequate nutritious food plays an essential role in determining the ability of humans to live a long healthy life, food security can be seen as crucial to attaining the right to development.⁹⁶²

The UN Committee on Economic, Social and Cultural Rights (CESCR) affirms that the right to adequate food is indivisibly linked to the inherent dignity of the human person and is indispensable for the fulfilment of other human rights.⁹⁶³ Thus, provisions for IP protection should not compromise or interfere with the public health exception. This was confirmed by the UN General Assembly when it recognized the need to preserve TRIPS flexibilities to facilitate measures for improving access to health care. Also, the United Nations Member States affirmed the principle when they agreed that IP rights provisions in trade agreements should not undermine these flexibilities.⁹⁶⁴

⁹⁶¹ Rodrigues, TRIPS General Exception Clauses, *supra* note 188, at 327.

⁹⁶² Oguamanam, Towards a Constructive Engagement, *supra* note 250, at 271.

⁹⁶³ CESCR, *General Comment 12*, E/C.12/1999/5, 12 May 1999, par. 4.

⁹⁶⁴ Resolution UN A/RES/65/277. *Political Declaration on HIV and AIDS: intensifying our efforts to eliminate HIV and AIDS*, New York: United Nations General Assembly; 10 June 2011.

5.4.6 Provide *sui generis* IP regulations under Articles 7-8 & 27.3(b) TRIPS and Article 5 of the Doha Declaration.

Article 27.3(b) of the TRIPS Agreement gives countries the flexibility to determine for themselves the appropriate system for the protection of plant varieties. Specifically, Article 27.3(b) states that “Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof.” Because the traditional knowledge and informal innovations associated with food agriculture in West Africa cannot be protected under current forms of IP protection, it is posited that *sui generis* forms of IP protection would enhance food security in the region.⁹⁶⁵

Though reference is made to the TRIPS Agreement, the EU-ECOWAS EPA does not make specific provision for *sui generis* IP regulation. Considering the important role that local plant varieties play in food production in West African states, it is suggested that an effective *sui generis* framework for protecting plant varieties in the region should allow for the registration of traditional varieties and allow smallholder farmers to continue to save and exchange seeds that they have harvested. The provisions of the EPA between the EU and Caribbean Forum (Cariforum) provides an example of *sui generis* regulation more suited to West African agriculture. Specifically, Article 149.1 establishes that the Cariforum can establish exceptions to plant variety protection for farmers to save, re-use, and exchange seeds and propagating material. Further, while Article 149.2 refers to UPOV 1991 and asks Cariforum to consider accession to it, the Article reiterates the TRIPS Agreement as the basis for protection of plant varieties. Thus, Cariforum member states are free to establish a *sui generis* system for protection of plant varieties.⁹⁶⁶ In contrast, Nigeria’s National

⁹⁶⁵ WIPO Secretariat, “Elements of a *Sui Generis* System for the Protection of Traditional Knowledge”, WIPO/GRTKF/IC/3/8, Geneva, March 2002, at 9.

⁹⁶⁶ CIEL, “IP in EU EPAs with the ACP Countries: What Way Forward After the Cariforum EPA and the Interim EPAs?”, April 2008, at 11-12, online: <https://www.ciel.org/Publications/Oxfam_TechnicalBrief_5May08.pdf>.

Crop Varieties and Livestock Breeds (Registration) Act (Amendment) Bill, 2015, does not acknowledge local varieties of crops bred by local farmers, nor does it provide for their registration or protection.⁹⁶⁷

5.5 Reconcile IP Protected Biotechnology and Local Agricultural Inventions in West Africa

Biotechnology involves technical tools that stem from scientific progress and that have several applications: in plant production, animal husbandry, health and food processing. Biotechnology can be applied to increase agricultural production through producing plants that resist pests and disease and developing more nutritious strains of staple crops. As such, biotechnology can help farmers produce more nutritious crops, while sustaining the land's ability to support continued farming. By developing crops that more efficiently absorb nutrients from the soil, biotechnology can help farmers produce more on land already under cultivation. Biotechnological produce and processes play an important role in achieving food security in Africa.⁹⁶⁸

Agricultural biotechnology is developed through traditional and scientific processes. Traditional biotechnological processes have been used for centuries in African societies for agricultural purposes and preservation. Modern biotechnology uses scientific techniques that include tissue culture, marker assisted selection and genetic engineering.⁹⁶⁹ While both forms of biotechnology are not exclusive, they are regulated in different ways. While scientific based technology is protected through the grant of patents and plant breeders' rights, biotechnology that

⁹⁶⁷ See Policy and Legal Advocacy Centre (PLAC), Nigeria, online: <https://lawsofnigeria.placng.org/view2.php?sn=291>.

⁹⁶⁸ Calestous Juma, *The New Harvest: Agricultural Innovation in Africa* (New York: Oxford University Press, 2011).

⁹⁶⁹ Sahel and West Africa Club Secretariat (SWAC) & OECD, "Agricultural Biotechnology and the Transformation of West African Agriculture" (2006) *SWAC Overview*, September 2006, SAH/D(06)558, at 11.

stems from traditional knowledge is only recognized under agreements that protect biodiversity and farmers' rights. As is demonstrated below, this dichotomy can restrict smallholder farmers from accessing modern biotechnology and from developing and benefiting from inventions based on traditional biotechnology.

Most scientific biotechnologies are owned by multinational corporations (MNCs) and SMEs that provide seeds and other agricultural inputs as well as biotechnological reagents and diagnostic, genetic profiling and other services. These corporations hold proprietary claims in the form of patents on many of the basic research tools e.g. molecular markers and trait-specific genetic constructs transformation and marker-assisted selection technologies and tangible products in the form of plant varieties and breeding lines,⁹⁷⁰ thus marginalizing access to such technology by smallholder farmers. Further, the introduction of sui generis systems of PVP and the patenting of biotechnology, coupled with computer software and database rights legislation and the use of copyrights to restrict or withhold access to genomic and other biological information held in private databases can pose challenges to accessing biotechnology by farmers in developing countries. This is because granting patents for gene constructs and genetically modified organisms will increase the price of seeds, propagating materials and other products because of the IP-related “technology fees” charged by patent owners. But higher input prices must be balanced against potential yield, quality and other benefits and costs, all of which have to be factored in when assessing uptake and distribution of economic and social benefits. Since a country's capacity for developing and utilizing biotechnology for domestic development is determined by the strength of

⁹⁷⁰ FAO, “Agricultural Biotechnologies in Developing Countries: Options and Opportunities in Crops, Forestry, Livestock, Fisheries and Agro-Industry to Face the Challenges of Food Insecurity and Climate Change (ABDC 10)” , FAO International Technical Conference, Guadalajara, Mexico, 1-4 March 2010, ABDC-10/8.1, at 48. Online at: <<http://www.fao.org/3/al266e/al266e.pdf>>. [FAO, ABDC 10]

the domestic science and (bio) technology capacities within its public and private sectors, where these capacities are weak the IP system will be used primarily to protect imported technologies.⁹⁷¹

Thus, it is important that West African countries should develop IP policies that carefully balance their needs to generate and access the basic tools, techniques, breeding lines and varieties for both research and the production of seeds and other tangible products, while promoting diffusion of these products to small-scale and particularly resource poor farmers. Providing for such balanced regulation is particularly important in West Africa because small-scale agriculture dominates, and traditional biotechnology provides a greater portion of the crop seeds and animal types used by farmers. For example, only about 7 percent of wheat seed and 13 percent of rice seed in India are sourced from the formal (public and/or private) sector, and in many parts of Africa and Asia it is estimated that over 80 percent of total farmers' seed requirements are met from outside the formal sector.⁹⁷²

Another challenge is that IP and trade related agreements do not have provisions for rewarding farmers, local communities and indigenous peoples for their roles in conserving and providing the genetic resources used by scientists and breeders to develop the new IP-protected varieties and other products using agricultural biotechnologies or other means; neither do they protect farmer-bred varieties (i.e. "traditional" and more informal communal systems of innovation by farmers and indigenous communities). These are concepts covered under multilateral biodiversity agreements (the CBD, particularly Articles 12 and 16, and the ITPGRFA), and which countries also have to address in ways that are both consistent with international trade agreements and between different pieces of legislation.⁹⁷³

⁹⁷¹ FAO, ABDC 10, at 48 & 50.

⁹⁷² FAO, ABDC 10, at 49.

⁹⁷³ FAO, ABDC 10, at 50.

Consequently, utilizing biotechnology to advance food security and sustainable agriculture in West Africa cannot be achieved by a legal/intellectual property framework that undermines the role of subsistence farmers and the associated traditional knowledge and agricultural practices of indigenous and local communities. When IPR privileges scientific biotechnology over traditional based biotechnological products and processes relevant to agriculture, it fosters a culture of dependence by practitioners of traditional agriculture on corporate seed monopolies and proprietors of modern biotechnology.⁹⁷⁴ This makes it necessary that IP regulations integrate both the innovation systems and biotechnologies produced by traditional and scientific systems to advance food security in West Africa.⁹⁷⁵

For example, although IP protected biotechnology has the potential for increasing agricultural production in West Africa, questions have been raised regarding the implications of modern biotechnology for health, socioeconomic development, biodiversity, the environment, and for traditional knowledge.⁹⁷⁶ For example biotechnological patents would inhibit the ability of farmers to save and re-use seeds. In the absence of an appropriate policy that protects farmers rights, the high costs of annually purchasing GM seeds produced by biotechnology, as compared to conventional seeds, might seriously compromise access for all producer categories.⁹⁷⁷ Moreover, because the IPRs in modern biotechnology are held mainly by developed countries, West African agriculture runs the risk of becoming dependent on seed companies based in

⁹⁷⁴ Oguamanam, IPR in Genetic Resources, *supra* note 901, at 277.

⁹⁷⁵ See Klaus Ammann, "Reconciling Traditional Knowledge with Modern Agriculture: A Guide for Building Bridges", in Anatole Krattiger *et al* (eds), *Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices* (Oxford, UK: MIHR, 2007) 1539-1558, at 1539. Online at: <
<http://www.iphandbook.org/handbook/resources/Publications/links/ipHandbook%20Volume%201.pdf>>.

⁹⁷⁶ SWAC & OECD, *supra* note 999, at 11.

⁹⁷⁷ *Ibid*, at 14.

developed countries. This dependence could strongly compromise the objective of food sovereignty.⁹⁷⁸

At the environmental level, one of the main fears is that of genetic contamination through the contamination observed on other continents, West African countries fear that use of modified varieties may lead to a loss of biodiversity, the distortion of the ecosystem and the disappearance of the local gene pool over time.⁹⁷⁹ Paying the higher price for transgenic seeds remains a risky choice especially for poor cash-strapped smallholder farmers constrained to produce primarily for home consumption. The adoption of genetically modified crop varieties and biotechnological processes are more affordable, and relatively easier to implement and manage, on larger farms. This makes access to biotechnological inputs more challenging in West Africa where most farms are small family farms, often less than 3 hectares in size.⁹⁸⁰

Current regimes for IP protection are based on the assumption that poor communities in underdeveloped countries need to adopt externally devised innovations and processes in order to be transformed into modern societies. These assumptions can generate dependencies which keep poor communities beholden to their first world counterparts. In order to reconcile the need to protect both formal and informal technology in West Africa, regional IP regulations should strive to reflect several features including the following:

- a) IP protection should develop local crop varieties and agricultural methods, along with modern biotechnology. This will be possible by integrating the norms of traditional knowledge including, PIC and ABS (Article 1 Nagoya Protocol) in IP regulations.

⁹⁷⁸ SWAC & OECD, *supra* note 999, at 15.

⁹⁷⁹ *Ibid.*

⁹⁸⁰ SWAC & OECD, *supra* note 999, at 13.

- b) Local scientists should actively participate in developing IP protected technology, as this will result in increased capacity building in African countries. In this regard, increased importation of foreign products will not qualify as technology transfer.
- c) IP protected biotechnology must be affordable to smallholder farmers and not reduce the control of farmers over their seeds in favour of plant breeders.
- d) IP protection should advance technology built on traditional knowledge, farmers' inventions and local practices. Encouraging innovation at the grassroots in a bottom-up process has been shown to be the most effective method in bringing about social change for improving the accessing power of farmers.⁹⁸¹

The acknowledgment of traditional knowledge and informal innovations as legitimate forms of IP that require legal protection can only occur if the present understanding of IP is expanded to capture innovation that occurs among local farming communities in West Africa.⁹⁸² As one author emphasizes:

A key to success and the potential for sustainability over time lies in the active participation of the beneficiary community. Active involvement transforms the community from a passive receiver of benefits into a protagonist of its own welfare. In some cases, participation is gradual in a project's initial stages but emerges and grows during implementation, generating the indispensable feeling of belonging and proprietorship.⁹⁸³

Although biotechnology has potential downsides, the major concerns in West Africa are not so much about justifying its role in agricultural production—the “why” question. The key issues

⁹⁸¹ See Victoria Pellicer-Sifres *et al.*, “Grassroots Social Innovation for Human Development: An Analysis of Alternative Food Networks in the City of Valencia (Spain)” (2017) 18:2 *Journal of Human Development and Capabilities* 258.

⁹⁸² Joel Mathews, “Understanding Indigenous Innovation in Rural West Africa” (2017), *supra* note 859, at 224; Chika Ezeanya, “Research, Innovation and Indigenous Knowledge in Africa: In Search of Nexus”, CODESRIA 14, 8-12 June 2015, Dakar Senegal.

⁹⁸³ Rey de Marulanda, Nohra & Francisco B. Tancredi. *From Social Innovation to Public Policy: Success Stories in Latin America and the Caribbean*, (Santiago de Chile: ECLAC, 2015), at 5.

revolve around questions of where, when, how, and who will produce biotechnology for Africa's benefit? If we are thinking of ultimate answers, then there is probably only one answer: biotechnology for Africa should mostly be done in Africa and by Africans themselves.⁹⁸⁴ This will require local capacity building.

A 2014 report issued by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), emphasizes that local capacity building involves two things: “1) recognizing and understanding innovation capacity within communities and 2) putting these communities and local systems at the heart of the innovation process.”⁹⁸⁵ The biggest challenge to food security in West Africa has been identified as an inability to access food due to poverty.⁹⁸⁶ Thus, for agricultural technology to advance food security in the zone, it is necessary that it helps sustain the momentum towards the attainment of crop self-sufficiency and the creation of gainful employment for the most vulnerable members of society, including the youths and women. The following case study of successful utilization of IP protected and traditional agricultural technology in West African countries illustrates the importance of the above principles.

Until 1990 potatoes consumed in Conakry, the capital of Guinea, were mainly imported from the Netherlands. Local production was low, amounting to less than 200 tonnes per year. It was also expensive, of mediocre quality, and not competitive. However, the *Fédération des Paysans du Fouta Djallon* (FPFD), Farmers’ Federation of Fouta Djallon, believed that they could develop the local potato sector. FPFD mobilized public pressure and in 1992 they succeeded in getting the government to introduce an import ban for the five months of year during which the local potato

⁹⁸⁴ Jesse Machuka, “African Biotechnology for Africa. African Scientists and Farmers Must Feed Their Own People” (2001) *American Society of Plant Physiologists*, at 16, online: <<http://www.plantphysiol.org/content/plantphysiol/126/1/16.full.pdf>>.

⁹⁸⁵ Betts & Bloom, “Humanitarian Innovation: The State of the Art”, *supra* note 941, at 19.

⁹⁸⁶ See Omotayo Edubi, “FAO urges Africa to formulate policies to boost rice production”, *The Sun News Nigeria*, 15th October 2018, online: <<http://sunnewsonline.com/fao-urges-africa-to-formulate-policies-to-boost-rice-production/>>.

is available. In parallel, FPFD sought to improve quality and productivity, setting up a program of support to farmers, supplying seed potatoes, fertilizer, credit and training with support from the Guinean authorities and international partners. As a result, by 1998 the local production had become competitive and imports of Dutch potatoes had diminished almost to zero. The import ban was lifted but this did not affect the local potato industry which continued its growth to the point of exporting to neighboring countries. In 2013, production reached 35,000 tons, of which 25,000 were exported. This example shows that controlling markets for biotechnology, accompanied by strategic policy support for local agriculture, can be reconciled for development. This is also the approach adopted by the EU in its 1962 Common Agricultural Policy (CAP).⁹⁸⁷

Type II: Policy Principles Applicable in Global and Regional IP Regimes

5.6 Maintain National Policy Space

IP regulations have been characterised by an increase in the coverage and level of IP protection and by attempts to harmonise IP standards throughout the world. The scope of protectable subject matter has been widened and new rights have been created.⁹⁸⁸ These developments have eroded the policy space of countries to countries to protect domestic public interest in IP regulations, raising concerns over their impact on areas as diverse as food security, public health, biodiversity, technology dissemination, research and development. African countries, along with NGOs such as the Alliance for Food Sovereignty in Africa (AFSA), have voiced concern that that their ability to

⁹⁸⁷ CONCORD, *supra* note 753, at 5.

⁹⁸⁸ The scope of IPR now includes plant varieties, genetic resources, biotechnology, and ICT. More recent forms of IP protection developed to cover these subject matters include PBR and Domain Names. For a detailed discussion on the expanding domain of IPR see Andrew Beckerman-Rodau, "The Problem with Intellectual Property Rights: Subject Matter Expansion" (2011) 13 *Yale J.L. & Tech* 35 at 53-72.

advance farmers' rights and the right to food domestically is increasingly circumscribed by the unified procedures and PBRs obligations of the WTO-TRIPS Agreement and the African Regional Intellectual Property Organization's (ARIPO) Draft PVP Protocol.⁹⁸⁹

Integration into the global economic system diminishes national policy autonomy in two ways. First liberalization of markets and dismantling of restrictions over cross-border movements of goods and services, and money and capital render economic performance highly susceptible to conditions abroad and weaken the impact of national policy instruments over macroeconomic and development policy objectives. Secondly, international rules and obligations diminish sovereign control over national policy instruments. These two sources of external constraints overlap and reinforce each other.⁹⁹⁰ Research has indicated that the constraints on national policy space can be politically influenced, and may not be based on objective socio-economic analysis of best policies.⁹⁹¹ Existing multilateral rules and norms seek to promote free movement of industrial goods, capital and enterprises, which favours advanced countries, but not free movement of labour, agricultural products or technology, where benefits would be greater for developing countries.

In legal terms, the WTO rules and commitments provide a level playing field for all parties, but impose constraints over national policies that are more challenging for developing rather than developed countries. The WTO TRIPS agreement provides some autonomy to countries to choose the form in which to implement IP obligations. However, current RTAs signed by West African countries are even more restrictive of policy space for ECOWAS countries. The intellectual property (IP) obligations in these agreements are notable for expanding the minimum standards of

⁹⁸⁹ John Vidal, "Real Battle for Seattle", *The Guardian International Edition*, 5th December 1999; AFSA & GRAIN, "Land and Seed Laws Under Attack: Who is Pushing Changes in Africa?", *Report*, January 2015, at 14.

⁹⁹⁰ Yilmaz Akyuz, "Multilateral Disciplines and the Question of Policy Space" (2009) *Third World Network Trade and Development Series* (Malaysia: TWN, 2009).

⁹⁹¹ Jorg Mayer, "What, For What, and Where?" (2009) 27:4 *Development Policy Review* 373 at 377.

protection and enforcement beyond those laid out in the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) of 1994. In this context, experts and policy-makers have argued that even in regional IP systems, maintenance of policy space is necessary to preserve the freedom and ability of governments to identify and pursue the most appropriate mix of economic and social policies to achieve equitable and sustainable development in their own national contexts.⁹⁹² Below are some strategies that ECOWAS countries can adopt to maintain national policy space.

5.6.1 Adopt principle of national sovereignty

State sovereignty is recognized in multilateral IP agreements. For example, the Paris Convention for the Protection of Industrial Property allowed countries a significant degree of flexibility in designing their patent regimes.⁹⁹³ However, national flexibility has been eroded under multilateral IP agreements like TRIPS and the UPOV. Moreover, several of the RTAs signed by West African countries, including the EPA, Pan-African Intellectual Property Organisation (PAIPO), the Organisation Africaine de la Propriété Intellectuelle (OAPI), and ARIPO agreements, have adopted TRIP-plus provisions that threaten to eliminate the capacity to tailor IP management to national conditions.⁹⁹⁴

It is suggested that West African countries adopt the principle of national sovereignty to retain their flexibility in IP regulations. This principle is contained in Article 10 of the ITPGRFA which recognizes “the sovereign rights of States over their own plant genetic resources for food

⁹⁹² Pedro Roffe, David Vivas & Gina Vea, “Maintaining Policy Space for Development: A Case Study of IP Technical Assistance in FTAs” (2007) ICTSD Issue Paper no.19, at 1; UNCTAD, (2014) “Trade and Development report 2014: Global governance and policy space for Development.”

⁹⁹³ Kenneth C. Shadlen, “Policy Space for Intellectual Property Management: Contrasting Multilateral and Regional Bilateral Arrangements” (2008) 10:2 *ECONOMICA*, Rio de Janeiro, 55 at 56.

⁹⁹⁴ *Ibid.*

and agriculture, including that the authority to determine access to those resources rests with national governments and is subject to national legislation”.⁹⁹⁵ Article 15 of the CBD also recognizes that States have sovereign rights over their natural resources and hence the authority to determine conditions for accessing and sharing benefits relating to genetic resources in areas within their jurisdiction. Article 8(j) of the CBD affirms the need for governments to “respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities”.

By making authority to determine access to plants and genetic resources rest with national governments and subject to national legislation⁹⁹⁶ the national sovereignty principle grants countries greater flexibility, as independent owners of their genetic resources; and encourages the equitable sharing of benefits arising from the utilization of traditional knowledge, innovations and practices.⁹⁹⁷ Also, national sovereignty enhances the ability of West African countries to consider social development interests in IP regulations.⁹⁹⁸ For example, West African countries may increase the power of local farmers to control access to PGR by requiring that “access to plant genetic resources for food and agriculture under development, *including material being developed by farmers*, shall be at the discretion of its developer.”⁹⁹⁹ In the case of multiple-use crops (food and non-food), their importance for food security should be the determinant for their inclusion in the multilateral system and availability for facilitated access.¹⁰⁰⁰

⁹⁹⁵ ITPGRFA, Article 10.1.

⁹⁹⁶ ITPGRFA, Article 12.3(h).

⁹⁹⁷ WIPO, *A Guide to Intellectual Property Issues in Access and Benefit Sharing Agreements* (Geneva: WIPO, 2018) at 14.

⁹⁹⁸ Jorg Mayer, “Policy Space: What, For What, and Where?”, *UNCTAD Discussion Paper* no.191, October 2008, at 2.

⁹⁹⁹ ITPGRFA, Article 12.3(e) [Emphasis added].

¹⁰⁰⁰ ITPGRFA, Article 12.3.

5.6.2 Establish *sui generis* IP systems

Article 27.3(b) of the TRIPS Agreement allows WTO member states to provide *sui generis* protection for plant varieties. As WTO member states, this provision grants West African countries greater policy space to adopt alternative forms of protection for plants. ARIPO's PVP Protocol¹⁰⁰¹ and the OAPI's Revised Bangui Agreement¹⁰⁰² have adopted *sui generis* plant variety protection rules that conform to the 1991 conventions of the International Union for the Protection of New Varieties of Plant (UPOV).¹⁰⁰³ However, because the UPOV restricts the ability of farmers to share, exchange and sell seeds of protected varieties outside their farms, it is suggested that in order to advance regional food security, other forms of *sui generis* regulations be explored by ECOWAS states. For example, the African Model Law and Article 39.1(iv) of India's Protection of Plant Varieties and Farmers' Rights Act, 2001 entitles farmers to re-sow, exchange, sell or share farm produce, including seeds of a protected variety.¹⁰⁰⁴

5.6.3 Holistic interpretation of IP regulations in the context of other treaties relating to human rights, sustainable development, plants and genetic resources

West African countries are signatories to international agreements including the CBD, the ITPGRFA, and the African Model Law. These treaties remain binding upon them and are to be executed in good faith based on the general international law principle of "*Pacta Sunt Servanda*"

¹⁰⁰¹ ARIPO, *Consideration of the Revised ARIPO Legal Framework for Plant Variety Protection*, Council of Ministers, 14th Session 28-29 November 2013, Kampala, Uganda, ARIPO/CM/XIV/8, 8th November 2013, [ARIPO PVP Protocol].

¹⁰⁰² African Intellectual Property Organization (OAPI), *Agreement Revising the Bangui Agreement of March 2, 1997, on the Creation of an African Intellectual Property Organization*, Bangui, Central African Republic, 24 February 1999, Annex X (Plant Variety Protection) [Bangui Agreement].

¹⁰⁰³ AFSA & GRAIN, *supra* note 841, at 14.

¹⁰⁰⁴ Shadlen, *supra* note 1023, at 61.

stated in Article 26 of the Vienna Convention on the Law of Treaties (VCLT).¹⁰⁰⁵ As earlier treaties which cover the same subject matters as IP regulations (plants and genetic resources), the Nagoya Protocol, CBD and ITPGRFA should be taken into consideration in the interpretation of regional and multilateral IP agreements.¹⁰⁰⁶ The obligations in these agreements regarding access and benefit sharing, prior and informed consent for access to genetic material, and state sovereignty should be specifically incorporated and due consideration made of them in interpreting the provisions of IP regulations.

5.7 Support Intra-Regional Trade More than Multilateral Trade

Economic literature emphasizes regional integration of markets as an important strategy for facilitating the transformation of the smaller economies of West Africa into a broader economic space that would enable countries to achieve economies of scale, strengthen the international competitiveness of regional companies, increase access to new technologies and investments, while serving as a buffer against external shocks and internal shortcomings.¹⁰⁰⁷ Case studies indicate that countries, or groups of countries, with the largest share of world trade are located in regions with the highest levels of intra-regional trade.¹⁰⁰⁸ A prominent example is the European Union.

The studies of trade and food security in West Africa, referenced in the preceding paragraph, indicate that intraregional agricultural trade serves as an important domestic price and supply

¹⁰⁰⁵ UN, *Vienna Convention on the Law of Treaties*, No.18232, Vienna, 23 May 1969, (entered into force 27 January, 1980) [VCLT].

¹⁰⁰⁶ VCLT, Articles 30 & 31.

¹⁰⁰⁷ See Alemayehu Geda, “The Potential for Internal Trade and Regional Integration in Africa” (2015) 2:1 *Journal of African Trade* 19; Salif Kone, “Economic Partnership Agreement between West Africa and the European Union in the Context of the World Trade Organization (WTO) and the Regional Integration Process” (2010) 25:1 *Journal of Economic Integration* 105.

¹⁰⁰⁸ Cheikh T. Dieye, “What Future for Integration and Intra-regional Trade in West Africa?”, *CACID Bulletin* no.4, March 2018.

stabilisation tool in the event of food crises. The 2008 financial crises and subsequent general increase in food price volatility provides evidence that international price spikes can be transferred to African markets.¹⁰⁰⁹ Therefore, to advance food security in the region, it is important that West Africa's IP regulations strengthen intra-regional trade.¹⁰¹⁰ This will provide the region with a means to cope with international competition that individual West African countries should embrace.

Yet, analysis in the earlier chapters of this thesis indicates that international, rather than regional integration is given greater support in multilateral IP treaties applicable to West Africa. For example, Article 4 TRIPS Most Favoured Nation (MFN) provision requires that, with regard to the protection of intellectual property, any advantage, favour, privilege or immunity granted by a WTO Member to the nationals of any other Member shall be accorded immediately and unconditionally to the nationals of all other Members. The MFN requirement raises the question of whether granting preferential treatment to IP regulations that advance trade among West African states might be contradictory to TRIPS MFN principle? To avoid such contradictions, it will be necessary to construct provisions that allow the preferential IPR provisions in FTAs among West African countries, as an exception to TRIPS MFN rule. In order to advance regional integration, IP agreements applicable to West African countries could adopt the the following strategies:

¹⁰⁰⁹ Jakob Engel & Marie-Agnes Jouanjean, "Barriers to Trade in Food Staples in West Africa: an Analytical Review" (2013) *ODI Report*, at 4-5 [Engel & Jouanjean, Barriers to Trade in Food Staples in West Africa].

¹⁰¹⁰ United Nations Development Programme (UNDP), *Regional Integration and Human Development: A Pathway for Africa*, (New York, UNDP, 2011) at 38-39, 53.

5.7.1 Strengthen regional IP Institutions and reduce trade barriers within West Africa

Studies indicate that the adoption of harmonized IP rules and policies alone is not adequate to foster regional integration.¹⁰¹¹ Regulatory changes must be accompanied by the development of institutions with the knowledge and capacity to interpret and implement IP regulations in a manner that takes full consideration of different stakeholders and countries in West Africa.¹⁰¹² Existing regional IP institutions in Africa are weak in terms of skilled manpower and resources.¹⁰¹³ Increasing the capability of regional institutions for analyzing patent and PVP applications would reduce the costs of the patent process for individual countries. In addition, the regional regulations and institutions governing IP in West Africa remain fragmented. Four ECOWAS states belong to the ARIPO¹⁰¹⁴, while 6 belong to the OAPI,¹⁰¹⁵ both of which adopt the TRIPS-plus standards of the UPOV agreement. All ECOWAS states are members of the World Intellectual Property Organization (WIPO) and WTO. To advance intra-regional trade in West Africa the principles and procedures of regional IP institutions need to be integrated.

Despite the existence of formal provisions for integration that support food security in ECOWAS agreements, the provisions remain largely unenforced by countries in the region. For example, Ghana imposes bans and restrictions, often for months at a time on unprocessed agricultural produce, while Burkina Faso imposes seasonal restrictions on maize.¹⁰¹⁶ A USAID Gap Analysis of ECOWAS' FTAs found that these restrictions reduced farmers' income and

¹⁰¹¹ Salif Kone, *supra* note 1037, at 125-126.

¹⁰¹² T. Ademola Oyejide, "Policies for Regional Integration in Africa" (2000) African Development Bank Economic Research Papers No.62, at 16; Daron Acemoglu & James Robinson, "The Role of Institutions in Growth and Development" (2010) 1:2 *Review of Economics and Institutions*, Article 1, at 1-7.

¹⁰¹³ Fikremarko Merso, "A Look into the Real Picture of IP Challenges for African LDCs", BRIDGES Africa, 10th October 2013.

¹⁰¹⁴ Specifically, Gambia, Ghana, Sierra Leone and Liberia.

¹⁰¹⁵ Namely, Benin, Ivory Coast, Guinea, Niger, Senegal and Togo.

¹⁰¹⁶ Engel & Jouanjean, Barriers to Trade in Food Staples in West Africa, *supra* note 1039, at 7.

compromise regional food availability and security during the off-season.¹⁰¹⁷The following suggestions are made regarding integrating laws and policies relevant to food security and IP in West Africa:¹⁰¹⁸

1. Prioritising intra-regional trade as an alternative to national self-sufficiency: Given the small size of domestic markets in many West African countries and the great variation in production, focusing on achieving similar objectives at the regional or sub-regional level is more realistically attainable and less likely to result in shortages than pursuing this at the national level.
2. Cross-border planning and integration of prioritised food staple value chains: A corollary of this is that countries will need support (including from donors) to identify barriers and foster value chain development for key food staples. Integration will require coordination at the regional level, as prioritised value chains should aim for some degree of complementarity with those of neighbouring countries.
3. Greater focus on implementation: It is not the absence of formal regional trade integration policies, but rather the lack of implementation through nontariff barriers that have prevented the development of regional food staples value chains. Thus, the political and economic factors influencing the level of implementation of regional agreements is of central relevance and should be assessed before further ambitious region-wide commitments are made.

¹⁰¹⁷ *Ibid*, at 49.

¹⁰¹⁸ Engel & Jouanjean, Barriers to Trade in Food Staples in West Africa, *supra* note 1039, at 19-20.

5.7.2 Reduce overlapping laws and multiplicity of regulations

The subjects of IP protection (including plants, seeds, and genetic resources) are regulated by multinational and regional laws with varying objectives. The fragmented nature of IP regulations increases the probability that the provisions of the EU-ECOWAS EPA may conflict with those of TRIPS and other multilateral regulations. For example, some African countries have voiced concerns that the provisions of Article 27.1 and 27.3(b) of the TRIPS Agreement, requiring the patenting of genetic material and the protection of plant varieties, allows for the requisition of such genetic resources by private parties in a way that is incompatible with the sovereign rights of countries over their genetic resources and the requirements for benefit sharing and prior informed consent as provided for in Articles 15 and 8(j) of the CBD.¹⁰¹⁹ Similarly, the individual private property rights granted to breeders under the UPOV have been seen as restricting the traditional farmers' rights to save, re-use, and exchange seeds either individually or collectively, guaranteed in Article 9 of the ITPGRFA and the African Model Law.¹⁰²⁰

Resolving such conflicts requires the application of conflict resolution norms under general international law. For example, the principle of the interrelatedness and mutual supportiveness of rights¹⁰²¹ requires IP agreements to be interpreted to support human rights, including the right to food (Article 25 UDHR), and sustainable development. Successful integration of these rights may not require greater harmonization, for the value of harmonized conditions differs between states, requiring differential lines to be drawn. The United Nations affirms the primacy of fundamental human rights obligations over private economic rights protected in IP related agreements like

¹⁰¹⁹ See the Joint Communications from the African Group and African Countries to the WTO in the following documents: IP/C/W/404, IP/C/W/206, IP/C/W/163, IP/C/M/40, paras. 76-79; Kenya, IP/C/M/47 para. 68, IP/C/M/36/Add.1, para. 233, IP/C/M/28, para. 144.

¹⁰²⁰ Strba, Legal and Institutional Considerations for PVP, *supra* note 221, at 198-200.

¹⁰²¹ See VCLT, Article 31.3(c); and the 1993 Vienna Declaration and Programme of Action which states that "all human rights are universal, indivisible, and interdependent and interrelated."

TRIPS.¹⁰²² Under the latter approach, human rights can be seen as providing a ‘ceiling’ to IPRs, specifying interests which IPRs should not interfere with.¹⁰²³

5.8 Require Contextualization and Greater Differentiation in Regional IP Standards

Because what compromises food security varies across countries, regions and sectors, *one size does not fit all* in applying IPRs to attain the goal of food security.¹⁰²⁴ Consequently, every country requires flexibility for differential application of IP laws and principles to attain national food security interests.¹⁰²⁵ Differentiation can be described as a provision, which allows for variation in the application of IP regulations between countries based on economic considerations,¹⁰²⁶ public interests such as public health and the environment,¹⁰²⁷ and in related sectors like pharmaceutical products and biodiversity.¹⁰²⁸ Differentiation is based on the idea that laws and policies cannot be assessed in a vacuum, but must be considered in the context to which they apply.¹⁰²⁹ The principle of differentiation states that the law should not be applied to parties that are dissimilar in the same manner, but must be interpreted and applied in a manner that recognises and accommodates such differences. This principle allows for more flexible interpretation of IP regulation, where, not just the ordinary meaning but the specific context in which the law is applied are taken into account in implementing its provisions.¹⁰³⁰ Studies emphasize that maximizing the application of the

¹⁰²² UN Sub-Commission on the Promotion and Protection of Human Rights, *Intellectual Property Rights and Human Rights*, Res. 2000/7, UNESCOR, 2000, UN Doc. E/CN.4/Sub.2/RES/S007/7, preamble, para. 3.

¹⁰²³ Ruse-Khan, *The Protection of IP in International Law*, *supra* note 234, at 211.

¹⁰²⁴ Scotchmer, *Innovation and Incentives*, *supra* note 52, at 117.

¹⁰²⁵ For the purpose of this research, *flexibility* is defined as the conditions that grant a country legal elasticity and better opportunities to apply policies that will lead to its attainment of national development goals.

¹⁰²⁶ For example, TRIPS Arts 66-67 grants variations in the time span for adopting TRIPS standards between least developed countries (LDCs), developing, and developed countries.

¹⁰²⁷ TRIPS, Art 27; Doha Declaration, Para 1-7.

¹⁰²⁸ TRIPS, Arts 27.1 & 27.3(b).

¹⁰²⁹ Gupta & Sanchez, *Elaborating the common but differentiated principle in the WTO*, *supra* note 164, at 425.

¹⁰³⁰ Zhuang, *IPR and Climate Change*, *supra* note 173, at 80.

differentiation principle in IP regulations is important for advancing food security in developing countries.¹⁰³¹ The following tools may be utilized to maximize differentiation in West African countries:

5.8.1 The economic capacity of a country should determine its IP obligations

For socio-economic development, countries situated in different social and economic conditions require different calibrations of the various doctrinal devices of IP law.¹⁰³² Considering the fact that the majority of countries in West Africa are classified as LDCs, IP regulation in the region should be structured flexibly to allow for maximum differentiation so as to accommodate the national food security and development interests of West African states at any given point. Despite being classed as ‘developing countries’, the largest economies in the region face the same challenges in food security as the LDCs.¹⁰³³ Hence, it is suggested that some of the exceptions granted to LDCs, be also extended to developing countries in West Africa. It is unrealistic to continue to place the same conditions for IP protection on developing countries in West Africa, as those placed on developing economies like China. A category of exceptions should be made for all countries in Sub-Saharan Africa.

5.8.2 Maintain the differentiation principle

Under differentiation, IP norms can be adapted by developing countries to suit their contexts.¹⁰³⁴

Such differentiation will not amount to discrimination, for paras 44 and 50 of the Doha Declaration

¹⁰³¹ Downes, TRIPS and food security, *supra* note 46.

¹⁰³² Graeme Dinwoodie, “Private Ordering and the Creation of International Copyright Norms: The Role of Public Structuring” (2004) 160 *Journal of Institutional and Theoretical Economics* 161, at 165-166.

¹⁰³³ See Bethel Ihugba & Ikenna Onyese, “International Intellectual Property Agreements as Agents of Sustainable Development of Developing Countries” (2016) 9:1 *African Journal of Legal Studies*, 1, at 6-7.

¹⁰³⁴ Dreyfuss (2009), *supra* note 490.

institutes the principle of special and differential treatment for developing and least developed countries as part of the WTO Agreements.¹⁰³⁵ A glance at contemporary jurisprudence indicates that countries are becoming more adoptive of such flexibilities. For example, India has adopted this line of reasoning in revoking claims of patent infringement.¹⁰³⁶ Similarly, in South Africa the *Monsanto case*¹⁰³⁷ indicates that the country is moving away from orthodox interpretations of IP law to interpreting the law based on the context in which it is applied. The adoption of this principle in international IP regulation is demonstrated by the fact that special forms of legal protection have been recommended in the WTO's Doha Declaration to protect public health. IP agreements are also interrelated with various other multilateral treaties, whose interests may require different forms and contextualisation of IP implementation.

Applying the differentiation principle in interpreting IP regulations would allow for adoption of local working requirements by ECOWAS states, which can enhance food security. Local working refers to the requirement that the patentee must manufacture the patented product, or apply the patented process, within the patent granting country. Local working is important because it accommodates the needs of poor countries. For instance, in the case of biotechnology, it provides access at affordable prices, helps local job creation, inspires further development of new and local technology and improves the countries' economic outlook.¹⁰³⁸ The requirement for non-discrimination in granting patents in Article 27.1 TRIPS prohibits the adoption of local working by WTO member states. However, in *EC-Canada*, the WTO Panel made it clear that the conduct prohibited under Article 27.1 TRIPS is discrimination, and that discrimination is not the same as

¹⁰³⁵ Doha Declaration.

¹⁰³⁶ See Lynne Taylor, *India Revokes Roche's Patent on Pegasys*, *supra* note 180.

¹⁰³⁷ *Monsanto Co v MDB Animal Health (Pty) Ltd (formerly MD Biologics CC)*, 2001 (2) 887 (SCA).

¹⁰³⁸ *Ihugba & Onyesi*, *supra* note 1063, at 18.

differentiation.¹⁰³⁹ The Panel suggested that governments are permitted to adopt different rules for particular product areas or locations of production, provided that the differences are adopted for bona fide purposes. The decision indicates that there may be distinctions in applying IP regulations among different fields of technology, and between imported and locally produced agricultural produce.

5.9 Adopt a Functionalist Approach to IP Protection

The multilateral treaties for IP analysed in this thesis acknowledge that IPRs are not absolute rights, but rights granted to fulfill public policy goals. Instrumentalism views IPRs as privileges granted to attain certain socio-economic objectives, including food security.¹⁰⁴⁰ The perception of IP law as a means to an end, rather than an end in itself, allows for teleological interpretation where the provisions of IP laws are continually examined for their purpose and effect.¹⁰⁴¹ In applying a functional approach to IP law, it must be acknowledged IP law has several objectives. There is no uniform means by which to achieve these goals. This requires application of the principle of differentiation to allow for flexible design of IP policies. The WTO TRIPS Agreement provides for differential application of IP regulation in sectors like public health and biodiversity, developing countries and LDCs, and in implementation of the treaty.¹⁰⁴² Functionalist approaches to IP protection will promote equity and substantive equality between developing and developed countries, so as to give effect to IPRs objectives, rather than mere formal application of the law.¹⁰⁴³

The following legal tools support functionalism in IP regulations:

¹⁰³⁹ *Canada-Patent Protection of Pharmaceutical Products*, WTO (2000), WT/DS114/R, 2000-5, 17 March.

¹⁰⁴⁰ Drahos, *A Philosophy of Intellectual Property*, *supra* note 65, at 199-223.

¹⁰⁴¹ Riles, *Property as Legal Knowledge*, *supra* note 159.

¹⁰⁴² TRIPS, Arts 27, 30, 66, 67.

¹⁰⁴³ Wei Zhuang, *IPR and Climate Change*, *supra* note 173, at 137.

5.9.1 Balancing of interest regulations

Article 7 of the TRIPS Agreement states that “The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the *transfer and dissemination of technology*, to the *mutual advantage of producers and users* of technological knowledge and in a manner conducive to *social and economic welfare*, and to a *balance of rights and obligations*.”¹⁰⁴⁴ Article 7 reflects the principle of *balancing and integrating of interests*. The interests of users of technology are to be balanced alongside those of producers of technology. This highlights the social function of IPRs as a facilitator of socio-economic welfare, rather than being an end in itself.¹⁰⁴⁵ As food security interests form part of the social objectives that IP protection should help advance, provisions for exceptions and limitations to IPRs to achieve food security are justified.¹⁰⁴⁶

Questions may arise as to whether the integration of differing public and private interests may lead to lack of certainty in interpretation and interfere with legitimate expectations under TRIPS. However, scholars have pointed out that because deliberation of the objectives and purpose of an agreement forms part of customary international law on interpretation as stated in Article 31 of the Vienna Convention on the Law of treaties (VCLT),¹⁰⁴⁷ which is applicable to TRIPS, consideration of its objectives is not an option, but a necessary part of the interpretive procedure.¹⁰⁴⁸ Thus, consideration of public interest objectives will aid, rather than hinder, the

¹⁰⁴⁴ TRIPS, Article 7 [emphasis added].

¹⁰⁴⁵ Ruse-Khan, *The Protection of IP in International Law*, *supra* note 234, at 457

¹⁰⁴⁶ Sell, *Private Power, Public Law*, *supra* note 28, at 13-14, 17-21.

¹⁰⁴⁷ UN, *Vienna Convention on the Law of Treaties*, No.18232, Vienna 23 May, 1969, (entered into force 27 January, 1980) [VCLT].

¹⁰⁴⁸ See Henning Grosse Ruse-Khan, “A Real Partnership for Development? Sustainable Development as Treaty Objective in European Economic Partnership Agreements and Beyond” (2010) 13:1 *Journal of International Economic Law* 139, at 160-167.

effective interpretation of IP provisions. Integrating all the objectives of a treaty will necessitate flexible interpretation for holistic consideration of all relevant interests. While the balancing of interests should not lead to re-writing of treaty provisions, this thesis proposes that the socio-economic objectives of IP treaties, should carry greater weight in the interpretation and implementation of IP treaties in West Africa.¹⁰⁴⁹

5.9.2 Increase the regional value chain

An agricultural value chain can be defined as the set of actors and activities that bring a basic agricultural product from the field to final consumption and add value at each stage of the production process.¹⁰⁵⁰ It therefore includes primary production, transformation, marketing and final consumption. In the agricultural sector, value can be added by acts carried out at the individual, farm, community, national, regional, or international levels, to achieve both social and commercial goals.¹⁰⁵¹

The African Union's Abuja Resolution emphasizes that developing regional value chains for strategic agricultural commodities is essential for advancing development in the continent.¹⁰⁵² Regional value chains differ from global value chains because the finished product is exported by a country within the region, either globally or regionally. Therefore, regional value chains offer countries in the region an opportunity to harness local trade and markets to boost their

¹⁰⁴⁹ UNCTAD-ICTSD, *Resource Book on TRIPS and Development*, *supra* note 163, at 124.

¹⁰⁵⁰ UNCTAD, "African Continental Free Trade Area: Developing and Strengthening Regional Value Chains in Agricultural Commodities and Processed Food Products", (New York and Geneva: UN, 2016), UNCTAD/WEB/DITC/2016/4, at 4.

¹⁰⁵¹ Ponniah Anandajayasekeram, "The Role of Agricultural R&D within the Agricultural Innovation Systems Framework" (2016) *Conference Working Paper* no.6, prepared for the ASTI/IFPRI-FARA Conference, Accra Ghana, 5-7 December 2011, at 16-17.

¹⁰⁵² African Union, *Resolution of the Abuja Food Security Summit*, 4-6 December 2006, Abuja, Nigeria, FS/RES(I), Par. 2.

competitiveness and to produce and export products with higher value added.¹⁰⁵³ By adding value to agricultural products, local farmers and small and medium enterprises (SMEs) in West Africa can increase the opportunity of obtaining some form of IP protection for their products. This will facilitate intra-regional trade and reduce reliance on imported foods, so as to increase food security in the region.

ECOWAS should consider adopting IP policies that require local working of patents, as such rules have been identified as playing an important role in advancing local value chains in India and Egypt.¹⁰⁵⁴ Local working requirements that advance national food security should not be considered as ‘discriminatory’ under Article 27.1 TRIPS, as they help fulfill the underlying public policy objectives for IP protection stated in Articles 7-8 and the preamble of the TRIPS Agreement. Public-private partnerships and partnering with academic institutions can also help West African farmers improve agro-processing and value addition to agricultural products.¹⁰⁵⁵ Where public-private partnerships result in discoveries that are subject to patents and PVP, the IPRs should not exclude local farming communities from access to the inventions and sharing in any resulting benefits.

¹⁰⁵³ UNCTAD, “From Regional Economic Communities to a Continental Free Trade Area: Strategic Tools to Assist Negotiators and Agricultural Policy Design in Africa”, *UNCTAD Report* (2017), UNCTAD/WEB/DITC/2017/1, at 22.

¹⁰⁵⁴ The IGLP Law & Global Production Working Group, “The Role of Law in Global Value Chains: A Research Manifesto” (2016) 4:1 *London Review of International Law* 57 at 70.

¹⁰⁵⁵ Jane G. Payumo, Evelyn Akofa Lemgo & Karim Maredia, “Transforming Sub-Saharan Africa’s Agriculture through Agribusiness Innovation” (2017) 4:1 *Global Journal of Agricultural Innovation, Research & Development* 1 at 10.

Type III: Negotiation and Mitigation Principles

5.10 Develop Transparent and Inclusive Negotiation Processes

The thesis has highlighted the fact that the process by which an agreement is negotiated plays a key role in determining the resulting norms and their contents. For example, the UPOV which was initially negotiated and developed by 11 European countries, reflected the needs of those countries and their technologically advanced companies. On the other hand, developing countries participated more in negotiations of the AU Model Law and WTO Doha Declaration, resulting in treaties that reflected their interests in areas such as development and public health. IP regulations in West Africa should include procedural provisions that facilitate transparent and inclusive consultation among all stakeholders, especially national farmer organizations and civil society organizations that promote food security and biodiversity.

To ensure that negotiations for future IP agreements are more inclusive, the thesis suggests that regulations require the participation of diverse stakeholders in negotiation processes, including NGOs and relevant government agencies. Such comprehensive participation will lead to higher transparency and accountability of IP regulations.¹⁰⁵⁶ The consultative process should be governed by several principles, including the following:

- **Broad Participation:** Negotiations should be made on the broadest possible basis on core issues. In relation to food security, the participation of local farmers and agricultural associations in IP negotiations would be very useful. Such associations

¹⁰⁵⁶ Bulgarian Center for Not-for-Profit Law (BCNL), “Participation of NGOs in the Process of Policy and Law Making: Comparative Analysis”, online: < <http://www.icnl.org/research/resources/ngogovcoop/partngo.pdf> > at 5.

may require financial support for active participation, especially in West Africa where the sustainability index for NGOs is poor.¹⁰⁵⁷

- **Openness and accountability:** The consultative process has to be transparent and make the subject of consultations clear. Also, those consulted should clearly state whose interests they represent.
- **Effectiveness:** The process of consultations has to commence in the earliest phases of preparation of a proposal, in order to increase the effect of the consultations to the maximum possible extent. Mechanisms need to be worked out for feedback on the presented opinions and for assessment of the completed consultations.¹⁰⁵⁸

As at January 2019, Nigeria remains the only West African country that has yet to sign the EPA. Thus, there remains a high probability of the agreement being ratified and adopted. This makes it important to consider what mitigating strategies West African countries can adopt if they opt not to develop a model regional IP framework. Because many West African RTAs, including the EPA, have provisions requiring that they should not be incompatible with WTO Agreements,¹⁰⁵⁹ it is suggested that the flexibilities of the WTO-TRIPS agreement be maintained in the interpretation and implementation of regional agreements. Regional IP regulations must not be considered in isolation from multilateral laws and policies adopted by West Africa relevant to food security.¹⁰⁶⁰ Being developed from existing multilateral regulations related to IPRs and food

¹⁰⁵⁷ NGOs in West African countries showed a poor sustainability index of 4.9 in 2010. See USAID, The 2010 NGO Sustainability Index for Sub-Saharan Africa, at 131, online: <https://www.usaid.gov/sites/default/files/documents/1860/2010_NGOSI_Africa.pdf>.

¹⁰⁵⁸ Bulgarian Center for Not-for-Profit Law (BCNL), “Participation of NGOs in the Process of Policy and Law Making: Comparative Analysis”, online at: <<http://www.icnl.org/research/resources/ngogovcoop/partngo.pdf>> at 11.

¹⁰⁵⁹ See EPA, Articles 12.1-2, 28.1, 87.9(c) and 105.

¹⁰⁶⁰ Examples include the ECOWAS Commission ‘Zero Hunger in West Africa’ position paper towards local-level food security in West Africa, September 2012, <www.inter-reseaux.org/IMG/pdf/Faim_Zero_EN.pdf>(accessed 10 August 2017); and the Global Alliance for Resilience (AGIR) in the Sahel and West Africa Declaration, ECOWAS, UEMOA & CILSS, AGIR, 6 December, 2012.

security, many of the recommendations in the model framework developed in this chapter are still applicable whether ECOWAS states adopt the EPA or not. It is important to remember that the subjects of IP protection relevant to food security are also regulated by numerous other treaties such as the CBD, Nagoya Protocol, ITPGRFA, and Human Rights laws. These represent a collective of partially overlapping and nonhierarchical regimes that grant West Africa opportunities to go forum shopping, by adopting the treaties and protocols that would best support their regional interests.¹⁰⁶¹

For example, the adoption of the Development Agenda (DA) at the General Assembly of the World Intellectual Property Organization (WIPO) in 2007 represented a paradigm shift in the international perspective of intellectual property (IP): a shift from viewing IP as an end in itself, to viewing it as a means to serve the larger public goals of social, economic and cultural development. Through the Development Agenda, WIPO has refuted the ‘one size fits all’ approach to IP protection and the advisability of the harmonization of laws leading to higher protection standards in all countries irrespective of the levels of development.¹⁰⁶² Consequently, some analysts have suggested that developing countries look to the WIPO as an alternative forum to the WTO for negotiating flexible IP regulations.¹⁰⁶³ However, other scholars have warned that focusing on the WIPO may push issues away from the WTO and thereby reduce pressure from developing countries to address those issues in the WTO.¹⁰⁶⁴ The thesis posits that West African interests are best supported by focusing on IP regimes and treaties that bring together ‘like-minded’

¹⁰⁶¹ Kal Raustiala & David Victor, “The Regime Complex for Plant Genetic Resources” (2004) 58:2 *International Organization*, 277, at 278-280, 299.

¹⁰⁶² WIPO, “Information on the Development Agenda Group Guiding Principles”, April 26, 2010, WIPO Doc. CDIP/5/9 Rev., Annex, 2.

¹⁰⁶³ Carolyn Deere, “The Politics of Intellectual Property Reform in Developing Countries: The Relevance of the World Intellectual Property Organization”, in Neil Netanel, ed., *The Development Agenda: Global Intellectual Property and Developing Countries* (Oxford: Oxford University Press, 2008) 111, at 120, 121-126.

¹⁰⁶⁴ Laurence Helfer, “Regime Shifting: The TRIPS Agreement and New Dynamics of International Intellectual Property Lawmaking” (2004) 29:1 *Yale Journal of International Law*, 1 at 79.

countries,¹⁰⁶⁵ whose IP interests align with those of the region. The CBD, Nagoya Protocol, and African Model Law provide examples of resolutions involving countries with common interests.

Regional IP regulations should be based on empirical research and impact assessment. Legal IP research focuses on issues related to property, (such as ownership, control and legitimate, as well as illegitimate, access to information) rather than on the policy aspects. In contrast, socio-economic research focuses on the policy aspects of IPRs, assessing the potential gains and losses that changes in IP regulations and policies may have on social issues, not just on trade or property rights. Socio-economic research can help establish causality where it exists, as well as patterns of probability. Such research would help advance food security because it does not focus solely on whether domestic or international legal obligations are being met, but on whether the benefits to the individual innovator outweigh the costs to society in terms of potentially higher costs, lower output, less innovation and creativity, or reduced access by users because of the exclusive intellectual property monopoly rights granted by government.¹⁰⁶⁶

5.11 Compatibility and Sustainability of the Model Framework

In proposing the model framework, two questions must be asked: the compatibility of the suggested model with current international and regional IP laws; and the sustainability of the alternative approach in West Africa. Regarding the compatibility of the model framework with current laws, this thesis posits that because the model is based on differentiation, a principle which is provided for in IP and trade regulations at the multilateral (e.g. Articles 7, 8 & 27.3(b) TRIPS) and regional levels (e.g. Articles 22 PAIPO, 23 Cotonou, 23.1 AfCFTA, and Sections 104 & 107

¹⁰⁶⁵ Daniel Gervais, *Restructuring Copyright* (Cheltenham, UK: Edward Elgar, 2017) at 292.

¹⁰⁶⁶ Curtis, IPRs and Int. Trade: An overview, *supra* note 63, at 8.

AGOA), and in the provisions of the EPA itself (e.g. Articles 2.4, 22, 46 & 87.1 EPA), it is compatible with current systems of IP protection.

Furthermore, the model framework provides a formula that will allow West African countries to reconcile their obligations under IP treaties like TRIPS, with their obligations under international human rights agreements and other international treaties regulating public interests affected by IP, such as the CBD, and ITPGRFA, to which West African countries are also signatories. In addition, the WTO jurisprudence in the *Australia-plain packaging* case, analyzed in chapter four, confirms the legitimacy of the principle of differentiation in multilateral IP and trade regulations.

Regarding the sustainability of the model framework, the thesis posits that because the model supports natural processes and biological diversity, it is sustainable. Moreover, the protection of traditional knowledge is not incompatible with IPRs. The thesis acknowledges that IP protected biotechnology such as fast breeding plants, and production without soil, will be important for overcoming food security challenges in the region.¹⁰⁶⁷ In the words of Dr. John Wafula, “The need for biotechnology in Africa is very clear. The use of high-yielding, disease-resistant and pest-resistant crops would have a direct bearing on improved food security, poverty alleviation and environmental conservation in Africa.”¹⁰⁶⁸ The question that arises is whether the protection of modern biotechnology and traditional agricultural knowledge can be reconciled in IP regulation? The following section demonstrates how this may be done.

¹⁰⁶⁷ For case studies of how agro-technology has been successfully utilized in African countries see Deloitte, “Sector Assessment and Opportunities for ICT”, *E-Transform Africa: Agricultural Sector Study*, 4th February 2012.

¹⁰⁶⁸ C. S. Prakash, “Benefits of Biotechnology for Developing Countries”, *AgBioWorld Article*, 2011, online: <<http://www.agbioworld.org/biotech-info/topics/dev-world/benefits.html>>.

5.12 Conclusion

Over the past two decades, countries have shifted from developing the norms for IP protection through multilateral agreements like TRIPS, to developing them through mega-regional agreements like the EPA. As such, provisions in RTAs are going to be more influential in determining what flexibilities will be available to advance public interests. The model framework developed in this chapter illustrates how West Africa can harness the power of mega-regional agreements to advance food security in the region based on the following principles:

Firstly, IP regulations are created to support public interest as well as private rights. As such, regional IP treaties should contain the flexibilities necessary to ensure protection of food security, as a public interest objective for IP protection, by providing exceptions and limitations to patents and plant variety protection. Advancing the public interest objectives of IP protection is an essential part of IP regulation. Accordingly, patents and plant breeders' rights can and should internalize the protection of food security as part of the public interest objectives for IP protection.

Secondly, IP regulations should be contextualized to suit different countries. Adopting a functional approach to IP regulation, that allows for differentiation, is an important tool for contextualization. Functionalism provides West African countries greater flexibility to integrate the protection of farmers' rights and traditional knowledge (rights that are important for the subsistence farming dominant in the region) in IP laws. A possible limit for the application of differentiation in regional agreements could be to state that differentiation should not go beyond the levels necessary to achieve the agreement's objectives, nor detract from flexibilities available under the fundamental norm for multilateral IP regulation, the TRIPS agreement.

Thirdly, regional and multilateral IP agreements form integral parts of public international law. They are not closed or self-contained regimes. Rather, they were created in the wider context

of general international law, as well as other treaties. Thus, the provisions of non-IP treaties related to plants and genetic resources, such as the CBD, Nagoya Protocol, ITPGRFA and African Model Law, should be applied in interpreting regional IP agreements, because they contain norms equivalent to those in IP agreements.¹⁰⁶⁹ Fourthly, IP norms are not static, rather they are inherently dynamic.¹⁰⁷⁰ Current rules for IP protection have been adapted by developed countries to protect their domestic businesses and new technologies. In order to advance food security, West African countries should adjust regional IP regulations to protect traditional knowledge, domestic plants and genetic resources, as well as informal inventions. Just as public interest shapes international IP regulations, West Africa's public interests in food security should shape regional frameworks.

It remains to be seen whether ECOWAS members States will stand up to the challenges that the expansion of mega-regional treaties related to IP may pose for food security, by developing a regional framework based on the above principles. Without such a proactive response, it is likely that for a region such as ECOWAS that largely depends on subsistence agriculture and importation of agricultural technology and seeds from developed countries, its food security objectives will remain largely unattained.

¹⁰⁶⁹ Tomer Broude & Yuval Shany, "The International Law and Policy of Multi-sourced Equivalent Norms", in Tomer Broude & Yuval Shany, eds, *Multi-Sourced Equivalent Norms in International Law* (Portland, Or, USA: Hart Publishing, 2011) 1-15, at 2.

¹⁰⁷⁰ Joost Pauwelyn, "The Role of Public International Law in the WTO: How Far Can We Go?" (2001) 95 *American Journal of International Law*, 535 at 578.

CHAPTER 6: Conclusion

6.1 Introduction

In recent times, the scope of multilateral intellectual property regulation has expanded to include subjects that are linked to agricultural production like seeds, plant varieties and genetic resources. Varying forms of intellectual property rights, such as patents, plant breeders' rights (PBR), geographical indications and trade secrets, are utilized to govern access to seeds, plants and genetic resources, as well as trade in agriculture. This has increased the influence that IP protection can have on food security.

While literature generally acknowledges the existence of a relationship between IPRs and food security, there is a lack of consensus about the optimal strength of patents, PBR, or breadth of flexibilities (including exceptions and limitations to IPRs) necessary for maximizing agricultural innovation and technology transfer to advance food security in developing countries. In Africa, drawing up a mutually acceptable framework for IP protection is made more complicated due to the proliferation of overlapping sub-international and regional trade agreements (RTAs), that are beginning to play a more prominent role in shaping IP, agricultural and genetic resource regulations on the continent.¹⁰⁷¹ This makes it imperative to re-evaluate the provisions for IP protection contained in the RTAs to which West African states are signatories, so as to ensure that while the RTAs do not contradict other multilateral agreements, they should also not compromise the food security interests of the region.

¹⁰⁷¹ Valdes & McCann, *supra* note 232.

The Economic Partnership Agreement between the European Union (EU) and the Economic Community of West African States (ECOWAS)¹⁰⁷² is illustrative of a recent RTA the provisions of which overlap with those of the other multilateral agreements relating to IP and food security, including the TRIPS Agreement, the CBD and its Nagoya Protocol, and the ITPGRFA. This thesis analyzes the provisions of the EPA, along with the rules and policies of other African and sub-continental intellectual property and trade organizations, such as the African Regional Intellectual Property Organization's (ARIPO) Arusha Protocol, the Organisation Africaine de la Propriété Intellectuelle's (OAPI), Revised Bangui Agreement and the African Union's African Continental Free Trade Agreement (AFCFTA), in order to explore whether these provisions advance, or compromise, West Africa's food security interests.

Such analysis is important because, despite the signing of several IP and trade related agreements by regional organizations and economic communities representing West African countries over the past two decades, the region continues to have one of the highest levels of food insecurity worldwide.¹⁰⁷³ While the implications of international IP regulation for global food security have received much analysis, the repercussions of the RTA for food security and sustainable development in West African countries has yet to receive in-depth analysis. The thesis focused on how patents, plant variety protection (PVP), traditional knowledge and informal inventions affect food security in West African countries and seeks to identify how regional IP regulation can be utilized to provide optimum support for food security and development in the region. Thus, the thesis helps to fill in a gap in the literature.

¹⁰⁷² *Economic Partnership Agreement Between the West African States, the Economic Community of West African States (ECOWAS) and the West African Economic and Monetary Union (UEMOA), of the One Part, and the European Union and its Member States, of the Other Part*, 3 December 2014, ST13370-2014-ADD 1 [EPA].

¹⁰⁷³ UN Economic Commission for Africa & Food and Agricultural Organization of the UN, *2018 Africa Regional Overview of Food Security and Nutrition- Addressing the Threat from Climate Variability and Extremes for Food Security and Nutrition* (Accra: FAO & ECA, 2018) at 3-4.

The objectives of the thesis were to explore the challenges and benefits that regional IP regulations provide for the benefit of smallholder farmers in West Africa; identify necessary changes in multilateral IP law and policy required to advance food security in the region; and to draw up a model framework for IP regulation suitable for supporting food security and smallholder farmers in West Africa.

The thesis specifically tackled two questions:

- a) *How can the intellectual property related norms, principles and provisions of multilateral regional agreements best be structured to support the attainment of food security in West Africa?* and
- b) *What implications will the Economic Partnership Agreement (EPA) between the European Union and the Economic Community of West African States (ECOWAS) have for food security in West Africa?*

The thesis found that food security forms part of the public interest objectives of IP treaties; the human right to food; the right to development; and the socio-economic rights of international laws which are relevant in interpreting IP agreements. In examining the research questions, the thesis viewed the relationship between food security and IP from a functionalist perspective, under which IP law is regarded as an instrument to achieve certain public interest purposes, including food security and development. The functional approach does not focus on the nature of IP, but rather on the functions of IP protection and how regulations may be calibrated to achieve desired results. This approach enabled the study to go beyond viewing IP and food security as isolated contradictory categories of law (namely property vs human rights; or international vs regional), to holistically considering all relevant laws based on their implications for West Africa. The integrated approach makes the study pragmatic and contextual.

Analysis was primarily carried out using the doctrinal method to examine multilateral and regional treaties, along with the resulting regulations, policies, principles and jurisprudence on IPRs and food security applicable to the West African region, to determine the status of the law. Critical doctrinal analysis was adopted which goes beyond stating what the law is on an issue, to appraising the adequacy of existing rules in fulfilling set objectives. Adopting the critical doctrinal method provided a basis for building on current laws to identify gaps and weaknesses in present regulations, and proposing amendments to laws and policies found wanting.¹⁰⁷⁴ An interdisciplinary research method was also used and examination made of relevant socio-economic and scientific literature, in order to determine the practical implications that current IP regulations will have for food security in the West African context.

6.2 The Nature of IPRs: Implications for Food Security in the West African Context

6.2.1 Key Findings

The literature review and interdisciplinary study in the first chapter indicated that the relationship between IPRs and food security (FS) in West Africa is affected by the following factors: Firstly, the region is experiencing large scale population growth, it is susceptible to climate change and currently it is trailing behind in economic and technological development. According to the United Nations (UN), the West African population is expected to reach 430 million people by 2020 and go beyond half a billion by 2040.¹⁰⁷⁵ Generally, West African countries are net importers and users of IP protected technologies.

¹⁰⁷⁴ Galligan, Paradox of Contextualisation, *supra* note 202, at 488-489.

¹⁰⁷⁵ Lauzon & Bossard, *supra* note 53.

Secondly, the majority of people in West Africa rely on subsistence agriculture, using traditional farming methods like the free exchange and replanting of seeds, for food production and income generation. Less use is made of IP-protected plants and seeds in food production in West Africa. Rather, farmers rely more on local plants that are rich in biodiversity, traditional knowledge (TK), informal innovation, subsistence farming, along with traditional agricultural processes like the free exchange of seeds for food.

Previous studies indicate that the power of IP regulations to advance development differs based on the context in which they are applied.¹⁰⁷⁶ Consequently, the optimal method for applying patents and plant breeders rights regulation to advance food security will vary based on the socio-economic development levels of each country.¹⁰⁷⁷ In order to advance food security, an IP system must provide countries with sufficient flexibility to meet their patent obligations without compromising the holistic consideration of local variables. Flexibility will require consideration of the general international law covering human rights, sustainable development and biodiversity in interpreting IP provisions.

Though the literature generally acknowledges the need to integrate food security and intellectual property interests, it indicates that there is no uniform model by which this fusion should be applied in all countries.¹⁰⁷⁸ One size does not fit all in IPRs systems. There is a need to mold IP regulation to suit different sectors and countries.¹⁰⁷⁹ This need for differentiation is especially important in relation to IP laws in West Africa because a common criticism of current

¹⁰⁷⁶ Fulya Batur & Tom Dedeurwaerdere, “The Use of Agrobiodiversity for Plant Improvement and the Intellectual Property Paradigm: Institutional Fit and Mass Selection, Conventional and Molecular Plant Breeding”, June (2014) 10:14 *Life Sciences, Society and Policy*, 1.

¹⁰⁷⁷ Taubman, *supra* note 185.

¹⁰⁷⁸ See N.S. Gopalakrishnan & T.G. Agitha, “The Indian Patent System: The Road Ahead” in Ryo Shimanami, ed, *The Future of the Patent System* (Cheltenham, UK: Edward Elgar Publishing, 2012) at 229-275; Fiona Rotstein, “Is there an International Intellectual Property System?”, *supra* note 116, at 1-4.

¹⁰⁷⁹ Chiarolla, *supra* note 119.

regimes for IP protection is that they were designed to suit the needs of developed, rather than developing, countries.¹⁰⁸⁰ The WTO Doha declaration recognized the need for “special and differential treatment for developing and least developed countries.”¹⁰⁸¹

Since food security is closely linked to agriculture, the thesis focused on forms of IPRs that are most relevant to agriculture in West Africa, the majority of which is based on subsistence farming. Consequently, IP regulations relating to patents, plant variety protection, and access to seeds, genetic materials and traditional knowledge were the focus of this study. Unlike previous studies, the thesis focused on regional IP laws and policies, rather than international IP regulations.

6.2.2 Inferences

Because of their nature as exclusionary rights, which grants owners the power to prevent others from taking actions,¹⁰⁸² the proprietary rights granted by IPRs in patents and plant variety protection (PVP) may interfere with access to seeds, plants and genetic resources necessary for food security innovations in West Africa. Current literature challenges the conventional notion of IPRs as being necessary for innovation by pointing out that innovation in plant breeding has flourished in traditional African agriculture in the absence of IPRs.¹⁰⁸³ Also, because the exclusive nature of patents and PBR restricts free circulation of plant genetic resources which are important for research, IPRs may hinder rather than advance the innovation of new plant varieties in Africa.¹⁰⁸⁴

¹⁰⁸⁰ Serageldin *et al*, *Biotechnology and Sustainable Development*, *supra* note 117; Mabeya & Ezezika, *Unfulfilled Farmers Expectations*, *supra* note 117.

¹⁰⁸¹ WTO, *Doha Ministerial Declaration*, WT/MIN(01)/DEC/1, 20th November 2001, (adopted on 14th November, 2001) Para.50 [Doha Declaration].

¹⁰⁸² See Peter Drahos *A Philosophy of Intellectual Property*, *supra* note 65, at 1-11.

¹⁰⁸³ Suthersanen, Dutfield & Chow, eds., *Innovation without patents*, *supra* note 66.

¹⁰⁸⁴ Correa, *TRIPS-Related patent flexibilities and Food Security*, *supra* note 67.

Moreover, IPRs are rights granted over intangible creations of the human intellect to advance public interests such as increasing access to inventions and public health, not just to protect the private interests of the rights holder. *Attaining food security requires a balancing of all interests affected by IP protection. To achieve this balance, it is essential not only to recognize the rights of IP holders, but also to limit IPRs.*¹⁰⁸⁵ Because ownership of genetic resources in plants essentially gives plant breeders control of the source plant, the thesis proposes that for farmers in West Africa retaining the ability of farmers to benefit from unfettered exploration of *the propagating capacity of seeds* is essential for food security in the region. Patenting of seeds should not result in reducing the farmer's rights or legalizing misappropriation of the genetic heritage of West African people in the absence of agreements requiring prior informed consent and access and benefit sharing.¹⁰⁸⁶

Traditional knowledge of plants and genetic resources of West African people are inventions with scientific aspects that should be protected as IP. Farmers are not just users of agricultural seeds and processes but are active participants in the innovative processes that develops local plant breeds. Often, local plant species do not meet the standards of genetic uniformity required for protecting innovations under TRIPS and the UPOV. Seeing that current forms of IP protection do not cater for these forms of innovations, alternative *sui generis* frameworks need to be drawn up, based on Article 27.3(b) TRIPS, that challenge existing norms of what is “new”, “useful” and “inventive”.

Making provisions in IP regulations for prior informed consent and access and benefit sharing for local communities was found to be important in advancing food security in West Africa. IP regulation does not occur in a box. Many of the regional IP regulations refer to and are based on previous international treaties. Consequently, in interpreting IPR, due consideration must

¹⁰⁸⁵ *Theberge v. Galerie d'Art du Petit Champlain Inc* (2002) Supreme Court Canada 34, Paras 31-32.

¹⁰⁸⁶ See *Harvard College v. Canada* (Commissioner of Patents) (2002) SCC 76 [Harvard Mouse].

be made of provisions for food security in other relevant multilateral and regional agreements and protocols such as the ITPGRFA, the CBD and its Nagoya Protocol, the Sustainable Development Goals and the African Model Law.

6.3 Scope for Food Security Protection in Multilateral IP and Non-IP Treaties Applicable to West Africa

6.3.1 Key Findings

The second chapter examined relevant multilateral IP and non-IP agreements to see what provisions they make for food security, and how much space they allow for regulation at the regional level. The chapter made the following findings:

Food security is protectable within multilateral IP agreements as part of the overarching public interest objectives stated in Articles 7-8 of TRIPS, or within the provisions for exceptions and limitations to IPRs. The regulation of IP in West Africa is highly fragmented, with agreements regulating IP and food security existing as parallel regimes at the regional and international levels. This makes it important to adopt general international law as stated in the Vienna Convention on the Law of Treaties (VCLT) to resolve conflicts of interest between treaties. IP laws do not operate in a vacuum. Based on the principle of interrelatedness of laws in general international law stated in Articles 31 and 40 of the VCLT, food security is protectable in IP agreements by consideration of rights contained in relevant non-IP treaties such as the right to food, sustainable development, farmers' rights, and traditional knowledge.

The process by which IP rules are negotiated plays a significant role in determining their utility for supporting food security and development in a region. West African countries did not

actively participate in the negotiations that informed the initial IP laws of the WTO, WIPO, or the UPOV Convention. As a result of the lack of transparency and inclusiveness in their negotiation processes, these laws do not adequately reflect the interests of West African states. In contrast, the African Model Law which incorporates the principles most supportive of West Africa's food security interests, was crafted by African countries under the canopy of Organization for African Unity (now African Union) with the goal of ensuring the conservation and sustainable use of biological resources, including agricultural technology, to support African development. Though the need to use IPRs to advance public interest is implied in the objectives and exceptions in multilateral IP agreements, they do not give details on the mode by which it should be achieved. This leaves policy space for West African countries to regulate the application of food security exceptions and interests at the regional and domestic levels.

6.3.2 Inferences

Because the multilateral treaties governing IPRs and food security were formed by organizations with different functions, applying the general legal principles of interpretation is of limited use. No hierarchy is established between agreements, rather treaties and legal regimes are viewed as parallel to one another and, based on the provisions of Article 41 of the VCLT, agreements can be interpreted autonomously of one another. Considering the highly interconnected nature of multilateral IP regulations, such isolated consideration of IP laws is impracticable.

Considering the above limitation, the thesis proposes that reconciling the objectives of relevant multilateral IP and food security agreements requires the formulation of alternative law and policy frameworks, at the regional and multilateral levels. A study by the Commission on Intellectual Property Rights and Development (CIPR) confirms the adoption of a *sui generis* IP

regime, different from the UPOV, as the best framework for integrating farmers' rights and PVP to support Africa's food security interests.¹⁰⁸⁷

The objectives of various multilateral treaties may be integrated to support food security through adoption of general international laws on conflict of laws. Due consideration must be given to subsequent agreements made within the meaning of Article 32 of the VCLT. The social, as well as the economic and trade objectives, of IP regulations should be given equal weight in interpreting IP laws based on Article 31 of the VCLT. Such balancing of interests requires contextual analysis of the impact of IP regulations and holistic consideration of relevant non-IP agreements such as the CBD and Nagoya Protocol, ITPGRFA, FAO-SDGs and Traditional Knowledge regulations.

Generally, provisions in contemporary IP agreements are not suitable for advancing food security in West Africa because they stick to classical norms for IP protection, which do not allow for the protection of traditional knowledge, smallholder farmers, local practices, and farmers' rights. Yet these interests are essential to supporting food security in the West African region.

These findings are interesting in showing that the scope for integrating food security norms into IP laws and policies is wider than often presumed. Though rarely utilized, provisions relevant to food security feature prominently in multilateral treaties, to which West African countries and regional organizations are signatories. Based on the principle of interrelatedness of laws, stated in Article 32 of the VCLT, due consideration must be given to food security provisions in subsequent IP agreements.

¹⁰⁸⁷ Commission on Intellectual Property Rights and Development [CIPR], *Integrating Intellectual Property Rights and Development Policy* final report (London: CIPR, 2002) at 63 & 66.

6.4 West Africa's RTAs: Implications for Food Security in West Africa

6.4.1 Key Findings

Having established how and why room exists for consideration of food security interests in multilateral IP regulations, the third chapter went ahead to analyze the provisions of regional and continental agreements signed by the West African region. The goal being to determine whether and to what extent RTAs supported regional food security interests, either by adopting the flexibilities provided in multilateral agreements, or by providing *sui generis* systems for the protection of food security in the West African context. The findings of the chapter are summarized below:

The RTAs signed by West Africa displayed several characteristics. They require greater conformity to multilateral IP regimes and grant less policy space for regional differentiation; contain TRIPS-plus provisions; undermine national sovereignty over agricultural resources; subject farmers' rights to breeders' rights; adopt uniform standards for PVP that local plant varieties find difficult to meet; do not protect traditional knowledge, informal innovation and local capacity building; and do not require investment into research and development of local agricultural technology. A major criticism of West Africa's regional agreements has been that they mimic inappropriate European frameworks.¹⁰⁸⁸ As such, maintaining flexibilities is important for designing RTAs suitable for West Africa.

The provisions of the treaties analyzed indicate that multilateral and regional agreements are not mutually exclusive or contradictory, for a measure of discretion is given for states to formulate IP frameworks at the regional level. However, this discretion is not absolute. For where a RTA is

¹⁰⁸⁸ Sanoussi Bilal, *supra* note 466.

built on and refers to multilateral IP regimes like the WTO, the RTA should not derogate from, or compromise the social, as well as the economic, objectives contained in Articles 7 & 8 of the WTO-TRIPS agreement.¹⁰⁸⁹

The negotiation processes of RTAs lacked transparency, equitable participation of parties, and inclusiveness of West African stakeholders. Also, the parties involved varied greatly in political and economic power and ownership of IP protected technology. This has greatly influenced RTAs to support the interests of powerful EU and non-African countries.

The private sector in West Africa is characterized by informal inventions, flexible procedures or non-regulation, small size enterprises, weak inter-firm linkages, low level export competitiveness and low technological capability. These characteristics are not catered for in regional IP agreements that tend to focus on protecting formal innovations and the removal of trade barriers, without the commensurate attention to the building of local productive capacities and private sector development.¹⁰⁹⁰

A wealth of genetic resources and traditional knowledge is available relating to major food crops in the region like cassava and yam. This knowledge will not fulfil the conditions for patents under formal patenting systems. Consequently, for RTAs to support food security in West Africa, it is necessary that they contain differentiated policies, which do not inhibit the powers of small holder farmers to utilize traditional farming systems, and which support local biodiversity and informal trading systems.¹⁰⁹¹

¹⁰⁸⁹ Ruse-Khan, Towards Safeguarding TRIPS Flexibilities, *supra* note 499, at 329-330.

¹⁰⁹⁰ UNCTAD, “Strengthening the Private Sector to Boost Continental Trade and Integration in Africa” (2015) *UNCTAD Policy Brief* No.33, May 2015, at 1.

¹⁰⁹¹ CILSS, *Landscapes of West Africa: A Window on a Changing World* (2016), US Geographical Survey (USA: EROS, 2016) at 16 and 59.

To facilitate food security, regional IP treaties must acknowledge that innovation in West Africa occurs mainly in the informal sector and is not protected by current forms of IPRs. IP regulations need to shift to embrace both the formal and informal home-grown technologies. The power of home-grown technology is illustrated in the findings of a 2018 report released by the International Fertilizer Development Centre (IFDC) in collaboration with the Food and Agricultural Organisation and other international agencies, which stated that fertilizer uptake by Nigerian farmers increased by 63 per cent in 2017, rising from 959,364 metric tonnes in 2016 to 1,564,816 metric tons.¹⁰⁹² This exponential increase in the use of fertilizers by Nigerian farmers was said to be as a result of improvements in the local fertilizer production under the Presidential Fertilizer Initiative of the Federal Government.

6.4.2 Inferences

Regional and bilateral agreements are featuring more prominently in determining IP relations between countries, rather than global multilateral agreements like TRIPS. Conformity to the multilateral standards of IP protection, rather than differentiation is reinforced in Articles 39(1) and 46 of the Cotonou agreement, which emphasize that parties should become WTO members, follow the WTO agenda. The importance of harmonizing relations between various bilateral, regional, and multilateral IP related agreements cannot be denied. However, the insistence that countries adopt TRIPS standards of IP protection, without demanding the requisite preservation of TRIPS exceptions and limitations to IPRs, reduces the flexibility of countries to adopt alternative regional agreements.

¹⁰⁹² Akinpelu Dada, "Nigeria's fertilizer consumption rose by 63% in 2017", *Punch Newspaper Nigeria*, (27 June 2018), online:<<https://punchng.com/nigerias-fertilizer-consumption-rose-by-63-in-2017-report/>>.

One area where conformity is evident is the greater protection granted in the RTAs to breeder's rights, in comparison to farmer's rights.¹⁰⁹³ Yet, the structures that support food security in West Africa include the non-infraction of the farmer's right to control seeds by the breeder's rights; the protection of traditional knowledge relating to plant varieties; and the advancement of smallholder farms. For regional IP agreements to enhance food security in West Africa, it is necessary that they shift away from this linear one size fits all approach, towards a holistic approach that allows for greater differentiation to suit local conditions.¹⁰⁹⁴

Traditional knowledge and genetic resources are not covered in the TRIPS Agreement. This leaves them open for regulation at the regional level. Moreover, these subjects are evolving and important issues relevant to IP and food security in African countries.¹⁰⁹⁵ However, despite the significance of traditional knowledge and genetic resources to food security in West Africa, current regional IP agreements do not specifically provide for protection of these areas of knowledge. A model framework for West Africa must include regulations in these areas. Relevant provision of the Swakopmund Protocol and the African Model Law should be considered.

TRIPS-plus RTAs risk undermining the flexibilities granted, and the balance achieved within multilateral IP agreements like TRIPS between IPRs and public interests.¹⁰⁹⁶ This will have negative effects for food security in West Africa, as studies indicate that at their current stages of economic development, West Africa countries (especially LDC's) will best support food security by embracing flexible and less stringent IP protection standards.¹⁰⁹⁷ Consequently, rather than

¹⁰⁹³ See *Arusha Protocol*, Article 22.2; *PAIPO*, Articles 22.2 & 22.3; and *Bangui Agreement*, Annex X.

¹⁰⁹⁴ Boladale Adebawale *et al*, Innovation, research and economic development in Africa, *supra* note 642, at v-vi; OECD, Innovation for Development, *supra* note 642, at 16-21.

¹⁰⁹⁵ Harriet Deacon, "Transboundary Knowledge and Regional Protection in the Protection of Traditional Knowledge in Kenya" (2017) *supra* note 646, at 226-235.

¹⁰⁹⁶ Abbott, "The WTO Medicines Decision, *supra* note 648, at 349-354; Abbott, Toward a New Era of Objective Assessment, *supra* note 648, at 88-97.

¹⁰⁹⁷ Mupangavanhu, The protection of IPRs in the CFTA, *supra* note 602, at 18-19; Syam & Tellez, *supra* note 637, at 57-62.

adopting stronger IP protection in RTAs that erode from TRIPS flexibilities, West Africa's regional IP laws should uphold the principle of balancing of social, economic and cultural interests related to IP protection.¹⁰⁹⁸ In the absence of substantive provisions, regional and multilateral agreements may be integrated through application of general international law principles and substantive IP laws and policies that incorporate West Africa's development goals, while allowing for differentiation between West Africa states that accommodate their varying socio-economic characteristics, levels of technological development and negotiating histories.¹⁰⁹⁹

The findings in chapter three showed that West Africa's regional agreements not only omitted a large number of the flexibilities provided to support food security in international agreements like TRIPS, but went further to adopt TRIPS plus provisions which are more challenging to West Africa's food security needs. The findings also highlighted the important role that the negotiation process plays in determining a treaty's contents, as well as the role that political influence plays on IP regulation. Future regulation aiming at protecting food security in West Africa must take such non-legal factors into consideration.

6.5 The TRIPS-Plus Nature of the EPA: Implications for West African Food Security

The fourth chapter examined the provisions of the EPA to determine what implications the agreement may have for food security in West Africa.

¹⁰⁹⁸ Peter K. Yu, Five Decades of Intellectual Property and Global Development, *supra* note 650, at 6; Mupangavanhu, *supra* note 602, at 20.

¹⁰⁹⁹ United Nations Economic Commission for Africa, African Union & African Development Banks Group, *Assessing Regional Integration in Africa VII* (Addis Ababa: Economic Commission for Africa, 2016), at 5-6.

6.5.1 Key Findings

The main findings and conclusions of the chapter are as follows:

The EPA negotiations took place between two political groups of vastly unequal power. Two primary principles underlie the EPA: Firstly, it is to supplement commitments made in the Cotonou agreement (2000)¹¹⁰⁰. Secondly, it is to operate based on the principle of reciprocity.¹¹⁰¹ When used in international law, reciprocity denotes a relationship where a state grants privileges to the citizens of another state, on the precondition that similar privileges are granted to its own subjects by that other state.¹¹⁰²

The ambiguous construction of special and differential treatment (SDT) in Articles 1-2 of the EPA makes the provision operationally ineffective. This contradicts the provisions of Par 13 and Par 44 Doha which states that “all SDT shall be reviewed with a view to strengthening them and making them more precise, effective and operational.”¹¹⁰³ Considering that provisions couched in similar general terms, such as Articles 7 and 8 of the TRIPS agreement, have not been very effective in influencing interpretation of the WTO agreement, Articles 1-2 of the EPA might not have much legal weight.

Parties to the EPA recognise that securing the food security of the population and raising the means of subsistence in a rural environment are essential for reducing poverty and must be viewed in the wider context of the Sustainable Development Goals.¹¹⁰⁴ However, the agreement only addresses economic methods, namely the avoidance of any breakdown in the agricultural and food products markets in West Africa, to deal with food security. Yet, food security is not solely based

¹¹⁰⁰ EPA, Article 2.1.

¹¹⁰¹ EPA, Articles 2.4 & 3.4.

¹¹⁰² Bruno Simma, *supra* note 647, par. 2.

¹¹⁰³ WTO, Doha Declaration 2001.

¹¹⁰⁴ EPA, Article 46.3.

on markets.¹¹⁰⁵ Factors such as local production capacity, sustainable food systems, equitable distribution, along with job and income generation also play an important role in supporting food security. The EPA does not provide for the protection of any of these other factors. By focusing on a single sector (economic), the EPA lacks the holistic approach necessary for advancing food security in IP laws and policies.¹¹⁰⁶

The provision for the accelerated adoption of West African countries into the world trading system, coupled with the elimination of almost all duty rates, in conformity with the principle of reciprocity contained in the Economic Partnership Agreement (EPA) significantly distorts the ability of West African countries to increase intra-regional trade and food security. Not only might it affect food availability, but it also impacts on food access, and the local agricultural industry. In particular, the reciprocity principle governing the EPA negotiations would lead to the trade displacement that is already taking place in the regional economic communities. As a result, the EPAs pose a major challenge to the ability of West African countries to raise intra-regional and continental trade.

The results of an impact assessment showed that implementation of the EPA in its present form will result in major costs for West African countries. These include the loss of government revenue, emasculation of the infantile domestic manufacturing industry, employment losses, increase in poverty levels, as well as erosion of policy space. Furthermore, the urgent and substantial import liberalization promoted by the EPA will increase competition for local agricultural products as a result of the influx of imported goods.

¹¹⁰⁵ Peter Timmer, “Food Security, Structural Transformation, Markets and Government Policy” (2017), *supra* note 771, at 6-7; Vyas, Ensuring Food Security, *supra* note 771, at 4404-4405.

¹¹⁰⁶ Torero, *supra* note 772.

Many of the provisions relevant to IP and food security are found in non-IP agreements like the Doha Declaration, Human Rights Law, the CBD, the ITPGRFA, and the African Model Law. However, little room is provided in the EPA for reference to these agreements. Multilateral agreements regulating plants and genetic resources, such as the CBD and ITPGRFA, require that prior informed consent be obtained from farmers and communities where genetic resources are located, and that access and benefit sharing agreements be signed to distribute any profits made from their use. The EPA does not mention the CBD or ITPGRFA. The emphasis on upholding WTO agreements, rather than other treaties meant to ensure that patents and PVPs support public interests, will hinder West African countries from relying on non-IP based agreements to prevent advance food security.

6.5.2 Inferences

The findings of the fourth chapter confirmed the hypothesis of the present study, namely that, in its current form, the EU-ECOWAS EPA does not cohere with the food security interests of West African countries. Changes are needed in both procedural and substantive provisions for the EPA and other RTAs to support food security in the region. The immediate impact of EU enlargement on West African agricultural exports will be limited. Both changes in the basis of quota allocations and removal of the production incentive of coupled payments lead to this conclusion. However, West Africa countries need to project how future production growth in each country can affect its market opportunities and negotiate IP agreements that will maintain stable trade while facilitating local inventions and small scale businesses.

One of the major obstacles for West African countries are the relatively more stringent food safety and quality requirements (SPS standards) that their exports face. This underlines the need

for continuous capacity-building and institutional strengthening in ECOWAS countries in agricultural production and marketing management. The regional value chain should also be advanced. Assistance from, and cooperation with importing countries and international organizations will be needed.

A waiver through Article IX of the WTO Agreement would not meet the Cotonou commitment “to conclude new WTO-compatible trading agreements.” Also, extending the Generalized System of Preferences (GSP) would not be an acceptable option because an extension to all other developing countries would automatically erode any benefit of preferences under an EPA framework. Attaining WTO compatibility for EPAs seems most likely by amending Article XXIV of the WTO Agreement, through introducing a Special and Differential Treatment (SDT) exception. SDT should be adopted in West African treaties based on the Doha Agreement which advises that IP protection should “take into account the development aspects of regional trade agreements.”

6.6 A Model IP Framework Friendly to Food Security in West Africa

The fifth chapter developed a model framework for regional IP protection that would be more supportive of food security in West Africa (Table 2). The principles of the model and its connections with the analysis in chapters 1-4 of the thesis are summarized in Fig 1 below.

It must be emphasized that because the model framework suggested above is built on principles of existing multilateral treaties and general international law, the framework may still be applied through multilateral institutions such as the WTO, WIPO and FAO if the EPA is adopted. Where the EPA is adopted, the following mitigating strategies are suggested for West Africa: The scope of subject matter that can be patented should be limited based on clearly defined

food security indicators.¹¹⁰⁷ In other words, if signed, the EPA should only grant IP protection if defined levels of availability, access, stability and utilization of nutritious edible foods are maintained at given periods by West African countries. Reciprocity should be based on the attainment of objective socioeconomic indicators rather than on arbitrary time frames and percentage of traded goods.

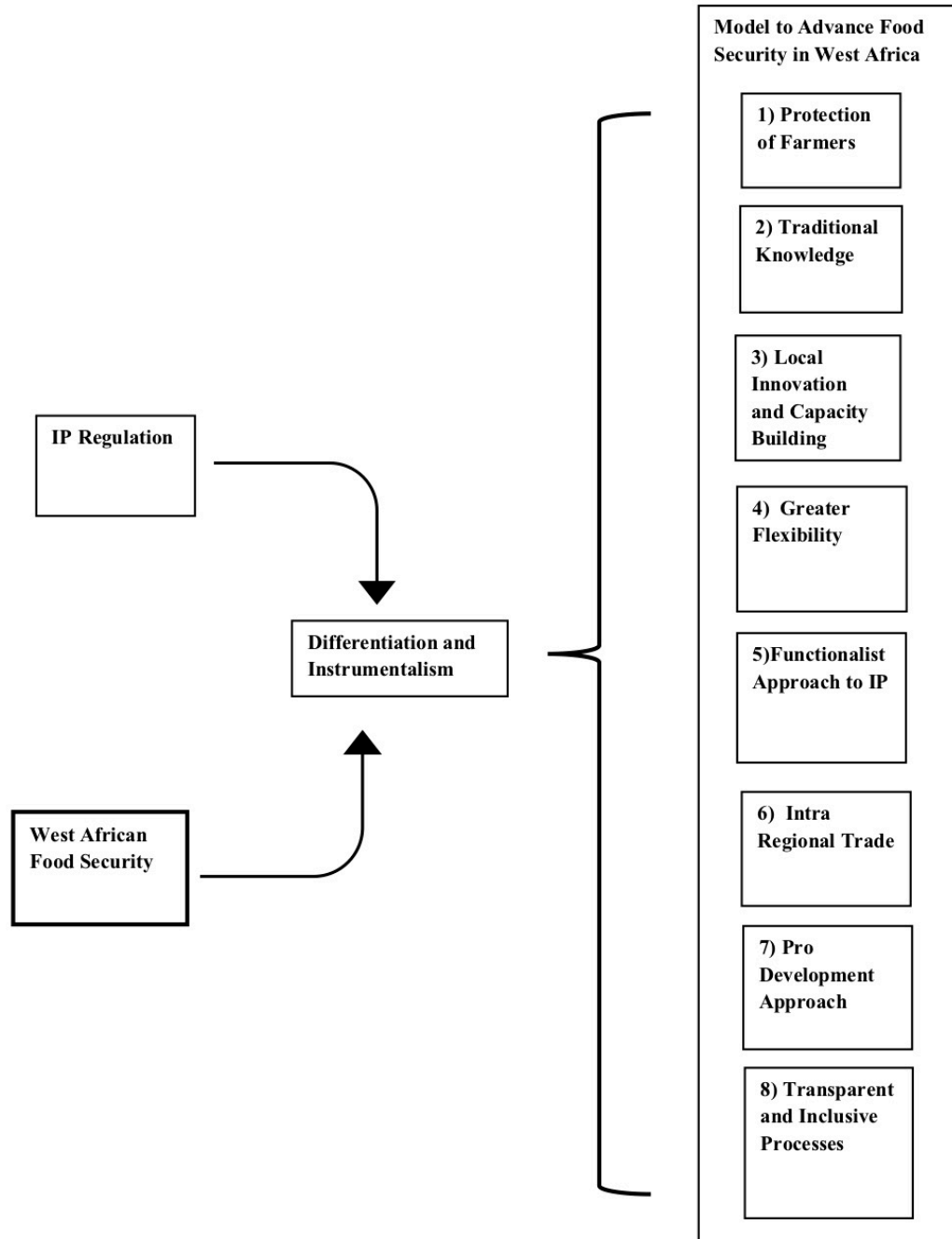
An independent dispute settlement mechanism should be incorporated in the EPAs to ensure free and fair determination of disputes which may arise in the course of the EPA arrangement. African countries should insist on the exclusion of some sensitive products which would be exposed to severe competition from relatively cheaper EU goods. These include goods which are produced by infant industries and products which attract high tariff revenues to the government. With the rapid growth of several emerging markets like China and India, African countries can also explore the opportunity of a more enhanced trading relationship with these countries.

The thesis proposes that West African food security is best supported by IP regulations that build the capacity of countries in the region to become independent in their food production and less reliant on the importation of agricultural products. The thesis provides insights on how legal theories and principles may be contextualized and applied to regional IP regulations and policies, so as to integrate West Africa's food security interests. This will contribute in advancing knowledge of the relationship between IP regulations and food security specifically in the context of West Africa. Also, the thesis develops a conceptual framework that integrates IP policy and regulation with regional food security objectives to predict consequences of IP protection on regional food security in the ECOWAS sub-region, which can help to guide future negotiations

¹¹⁰⁷ Food security indicators have been developed by international organizations, such as the FAO and the United Nations. See FAO, "Food Security Indicators", online at: < http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.W_ygQzhKjIU>; and the UN's World Food Program, "Consolidated Approach Reporting Indicators Food Security (CARI), February, 2014.

and formulation of IP policies by the region. However, further numerical research and impact assessments will be necessary to practically implement a framework for IP protection so as to enhance food security in West Africa.

Figure 1. Summary of Model Framework



Bibliography

Legislation and Multilateral Agreements

- ACP Declaration on the Fourth Ministerial*, African, Caribbean and Pacific (ACP) Group, Brussels, 5 to 6 November 2001, Communication from Kenya, WT/L/430 (2001).
- African Charter on Human and People's Rights*, AU, OAU Doc. CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), adopted 27 June 1981, entered into force 21 October 1986.
- African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources*, OAU Model Law, Algeria, 2000.
- Agenda 2063 – The Africa We Want*, AU Commission, Addis Ababa, 2015.
- Agenda 21*, UN, United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June 1992.
- Agreement between WIPO and WTO*, WIPO-WTO, 22 December 1995, (1996) 35 ILM 754.
- Agreement Establishing the African Continental Free Trade Agreement (AfCFTA)*, African Union (AU), Kigali draft text, March 2018, TI21086_E.
- Agreement on Agriculture*, WTO, 15 April 1994, 1867 UNTS 410.
- Agreement on the Creation of the African Regional Intellectual Property Organization*, 19 African states, Lusaka, 9th December, 1976.
- Agreement on Trade Related Aspects of Intellectual Property Rights*, WTO Members, 15 April 1994, Annex 1C of the Marrakesh Agreement establishing the WTO, (entered into force 1 January 1995).
- Agreement Relating to the Creation of an African Intellectual Property Organization, Constituting a Revision of the Agreement Relating to the Creation of an African and Malagasy Office of Industrial Property*, OAPI, Bangui, Central African Republic, March 2, 1977, OA002.
- Agreement Revising the Bangui Agreement of March 2, 1977, on the Creation of an African Intellectual Property Organization*, OAPI, Annex X (Plant Variety Protection) Bangui, Central African Republic, 24 February 1999.
- Arusha Protocol for the Protection of New Varieties of Plants within the Framework of the African Regional Intellectual Property Organization*, ARIPO, adopted by Diplomatic Conference of ARIPO at Arusha, Tanzania, on 6th July 2015.
- Berne Convention on the Protection of Literary and Artistic Works*, UN, Berne, 9 September 1886, as amended 28 September 1979, 1161 UNTS 30.
- Consideration of the Revised ARIPO Legal Framework for Plant Variety Protection*, ARIPO, Council of Ministers, 14th Session 28-29 November, 2013, Kampala, Uganda, ARIPO/CM/XIV/8, 8th November 2013.

Convention on Biological Diversity, UN, 5 June 1992, 1760 UNTS 79 (entered into force 29 December, 1993).

Convention on the Rights of the Child, UN-OHCHR, General Assembly Resolution 44/25, 20 November 1989.

Declaration on the Right to Development, UN General Assembly, A/RES/41/128.

Declaration on the Rights of Peasants and Other People Working in Rural Areas, UN HRC, 28 September 2018, A/HRC/RES/39/12.

Declaration on the TRIPS Agreement and Public Health, WTO, WT/MIN(01)/DEC/2, 20 November 2001.

Doha Ministerial Declaration, WT/MIN(01)/DEC/1 20 November 2001 (01-5859) WTO member states, Ministerial Conference, Fourth Session Doha, 9-14 November 2001 (adopted on 14 November 2001).

Economic Community of West African States Treaty, ECOWAS, 15 West African States, 28 May 1975, No.14843(entered into force 20 June 1975).

Economic Partnership Agreement between the CARIFORUM States, of the one part, and the European Community and its Member States, of the Other Part, OJ L289/I/3, Bridgetown Barbados, 15 October 2008.

Economic Partnership Agreement between the West African States, ECOWAS and WAEMU of the one part and The European Community and its Member States of the Other Part, EU/EPA WA/en, February 2014.

ECOWAS Revised Treaty, ECOWAS Commission, Abuja, 2010, Treaty No.14843.

General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187, 33 I.L.M. 1153 (1994).

General Comment 12, The Right to Adequate Food, UN CESCR, E/C.12/1999/5, 12 May 1999.

Global Alliance for Resilience (AGIR) in the Sahel and West Africa Declaration, ECOWAS, UEMOA & CILSS, Ouagadougou, 6 December 2012.

Intellectual Property Rights and Human Rights, UN Sub-Commission on the promotion and protection of human rights, Res 2000/7 UNESCOR 2000 UN Doc E/CN.4/Sub.2/RES/S007/7.

International Convention for the Protection of New Varieties of Plants, 2 December 1961, as revised at Geneva on 19 March 1991, 815 UNTS 89 (entered into force 24 April 1998).

International Covenant on Economic, Social and Cultural Rights, GA Res 2200A(XXI), 21 UNGAOR Supp No. 16 at 49, UN Doc A/6316 (1966), 993 UNTS 3.

International Treaty on Plant and Genetic Resources for Food and Agriculture, 3 November 2001, 2400 UNTS 303 (entered into force 29th June 2009) [ITPGRFA].

Johannesburg Declaration on Sustainable Development, adopted at the 17th plenary meeting of the World Summit on Sustainable Development, on 4 September 2002.

Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, 29 October 2010, UNTS registration no. A-30619 (entered into force 12 October, 2014).

National Cross-border Trade Strategy 2012-17: A comprehensive strategy to support Rwanda's exports to neighboring countries, Rwanda Ministry of Trade and Industry, (*MINICOM 2012*), October 2012.

Paris Convention on the Protection of Industrial Property, Paris, 20 March 1883, as amended 28 September 1979, 828 UNTS 306.

Partnership Agreement between the Members of the African, Caribbean and Pacific Group of States of the One Part, and The European Community and its Member States of the Other Part, [Cotonou Agreement], signed in Cotonou on 23 June 2000, revised in Luxemburg on 25 June 2005, and revised in Ouagadougou on 22 June 2010, Official Journal of the European Communities, 15.12.2000, L 317/3.

Rome Declaration on World Food Security and World Food Summit Plan of Action, FAO, World Food Summit, 13-17 November 1996.

Resolution of the Abuja Food Security Summit, African Union, 4-6 December 2006, Abuja, Nigeria, FS/RES(I).

Revised Treaty of the Economic Community of West African States, 16 West African States, 24 July 1993, (entered into force 23 August 1995) [ECOWAS Revised Treaty].

Statute of the Pan African Intellectual Property Organization, African Union Members, Extraordinary Session of the African Ministerial Conference on Science and Technology [AMCOST], 15-18 April, 2014, Brazzaville, The Republic of Congo, Doc No AU/MIN/CONF V/ST/2 (II) EN, Ex-C1/839/Annex 3.

Statute of the Pan-African Intellectual Property Organisation, AU-STRC, adopted by the 26th ordinary session of the Assembly, Addis Ababa, Ethiopia, 31 January 2016.

Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore, ARIPO, 9 August 2010 (entered into force 11 May 2015).

Trade and Investment Framework Agreement between the Government of the United States of America and the Economic Community of West African States, ECOWAS-USA, 5 August 2014.

Transforming our World: the 2030 Agenda for Sustainable Development, GA Res A/RES/70/L.1, UNGAOR, 70th Sess, UN Doc A/RES/70/1 (2015).

Treaty of the Economic Community of West African States (ECOWAS), Lagos, 28th May 1975, UN registered treaty no. 14843.

Universal Declaration of Human Rights, UN, GA Res 217 A (III), UNGAOR, 3rd Sess, Supp No 13, UN Doc A/810 (1948) 71.

US Trade and Development Act, 2000, Public Law 106-200, May 18, 2000.

Vienna Convention on the Law of Treaties, UN, No.18232, Vienna 23 May, 1969, (entered into force 27 January, 1980).

WIPO Copyright Treaty, WIPO, adopted Dec. 20, 1996, WIPO Doc. CRNRIDC/94.
WIPO Development Agenda, WIPO, October 2007, WO/GA/34/16.
WTO Ministerial Declaration on the TRIPS Agreement and Public Health, Brussels, European Commission, 19 November 2001.

Jurisprudence

National Jurisprudence

Adams v. Burke, 84 U.S. (17 Wall.) 453, 457 (1873).
Aktiebolaget Hassle & Astrazeneca Pharmaceuticals Ltd vs. Triomed Ltd (2002) The Supreme Court of Appeal of South Africa, 63/2002.
Bloomer v. McQuewan (1853) 55 U.S. (14 How.) 539.
Bowman v. Monsanto Co. (2013) 133 S. Ct., 1761.
Brownell's License, (1892) Vol.XI., *Pennsylvania County Courts Reports*, at 404.
Intel Corp. v. ULSI Sys. Tech., Inc. (1993) US Fed. Cir., 995 F.2d 1566, 1568; 27 USPQ2d 1136.
Monsanto Co v MDB Animal Health (Pty) Ltd (formerly MD Biologics CC), 2001 (2) 887 (SCA).
Quanta Computer, Inc. v. LG Electronics, Inc. (2008) 553 U.S. 617 at 625.

International and Regional Jurisprudence

Australia-Certain Measures Concerning Trademarks, Geographical Indications and Other Plain Packaging Requirements Applicable to Tobacco Products and Packaging (Complaint by Indonesia) (2018), WT/DS435/R, WT/DS441/R, WT/DS458/R and WT/DS467/R (Panel Reports).
Canada – Patent Protection of Pharmaceutical Products (Complaint by the European Communities and their member States) (2000), WT/DS114/R (Panel Report).
Canada – Term of Patent Protection (Complaint by the United States) (2000), WT/DS170/AB/R (Appellate Body Report).
European Communities-Measures Concerning Meat and Meat Products (Hormones) (Complaint by the United States) (1997), WT/DS26/R/USA (Panel Report).
European Communities-Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs (Complaint by the United States) (2005), WT/DS174/R (Panel Report).
European Communities-Regime for the Importation, Sale and Distribution of Bananas [EC-Bananas III] (Complaints by Ecuador, Guatemala, Honduras, Mexico and the United States) (1997), WT/DS27/R/ECU (Panel Report).

European Communities-Regime for the Importation, Sale and Distribution of Bananas [EC-Bananas III] (Complaints by Ecuador, Guatemala, Honduras, Mexico and the United States) (1997), WT/DS27/AB/R (Appellate Body Report).

Gabcikovo-Nagymaros Project (Hungary v. Slovakia), [1997] ICJ Reports 7.

Japanese- Measures Affecting Agricultural Products (Complaint by the United States) (1998), WT/DS76/R (Panel Report).

Japanese- Measures Affecting Agricultural Products (Complaint by the United States) (1999), WT/DS76/AB/R (Appellate Body Report).

Korea-Measures Affecting Imports of Fresh, Chilled and Frozen Beef, (2000) WT/DS161/AB/R (Appellate Body Report).

Peru-Additional Duty on Imports of Certain Agricultural Products- Complaint by Guatemala (2015) WT/DS457/AB/R (Appellate Body Report). Related Reports cited: WT/DS27/R/GTM, WT/DS27/R/HND, WT/DS27/R/MEX & WT/DS27/R/USA.

Social and Economic Rights Action Centre (SERAC) & Another v Nigeria Comm 155/96 (2001) AHRLR 60 (ACHPR 2001).

United States-Countervailing Duties on Non-Rubber Footwear from Brazil (1989) SCM/94 (Panel Report).

United States-Import Prohibition of Certain Shrimps and Shrimp Products (Complaint by India; Malaysia; Pakistan and Thailand) (1998), WT/DS58/R (Panel Report).

United States-Import Prohibition of Certain Shrimps and Shrimp Products (Complaint by India; Malaysia; Pakistan and Thailand) (1998), WT/DS58/AB/R (Appellate Body Report).

United States-Section 211 Omnibus Appropriations Act of 1998 (Complaint by the European Communities and its member states) (2001) WT/DS176/R (Panel Report).

United States-Section 211 Omnibus Appropriations Act of 1998 (Complaint by the European Communities and its member states) (2002), WT/DS176/AB/R (Appellate Body Report).

United States-Shrimp – Recourse to Article 21.5 of the DSU by Malaysia (Complaint by Malaysia and Thailand) (2001), WT/DS58/RW (Panel Report).

United States-Shrimp – Recourse to Article 21.5 of the DSU by Malaysia (Complaint by Malaysia and Thailand) (2001), WT/DS58/AB/RW (Appellate Body Report).

United States-Measures Affecting the Production and Sale of Clove Cigarettes (Complaint by Indonesia) (2012), WT/DS406/AB/R (Appellate Body Report).

United States-Section 110(5) of the US Copyright Act (Complaint by the European Communities and their member states) (2000), WT/DS160/R (Panel Report).

Whaling in the Antarctic (Australia v. Japan: New Zealand intervening), [2014] ICJ Reports 226.

Secondary Material

Monographs

- Aggarwal, Vinod K. & Shujiro Urata, *Bilateral Trade Agreements in the Asia-Pacific: Origins, Evolution, and Implication* (New York and London: Routledge, 2006).
- Agola, Nathaniel, *Technology Transfer and Economic Growth in Sub-Saharan African Countries* (Berlin: Springer, 2016).
- Akyuz, Yilmaz, “Multilateral Disciplines and the Question of Policy Space” (2009) *Third World Network Trade and Development Series* (Malaysia: TWN, 2009).
- Alliance for Food Sovereignty in Africa (AFSA), *Resisting Corporate Takeover of African Seed Systems and Building Farmer Managed Seed Systems for Food Sovereignty in Africa* (Kampala, Uganda: AFSA, 2017).
- Alston, Philip & Katarina Tomasevski, *The Right to Food* (Boston: Martinus Nijhoff Publishers, 1984).
- Anderson, Kym, *Agricultural Trade, Policy Reforms, and Global Food Security* (New York: Springer, 2016).
- Baldwin, Richard & Patrick Low, eds, *Multilateralizing Regionalism: Challenges for the Global Trading System*. (Cambridge, UK: Cambridge University Press, 2009).
- Barker, Debbie et al, *Seed Giants vs US farmers: A report by the Centre for Food Safety & Save Our Seeds* (Washington, DC: Center for Food Safety, 2013).
- Blakeney, Michael, *Intellectual Property Rights and Food Security* (Cambridge, USA: CABI, 2009).
- Bonanomi, Elisabeth, *Sustainable Development in International Law Making and Trade International Food Governance and Trade in Agriculture* (Cheltenham: Edward Elgar, 2015).
- Braga, Carlos et al, *Intellectual Property Rights and Economic Development* (Washington D.C.: World Bank, 1999).
- Brunnee, Jutta & Stephen Toope, *Legitimacy and Legality in International Law: An Interactional Account* (Leiden: Cambridge University Press, 2010).
- Christy, Ralph & Vicki Bogan, *Financial Inclusion, Innovation, and Investments: Biotechnology and Capital Markets Working for the Poor* (Singapore: World Scientific, 2011).
- Chynoweth, Paul, “Legal Research”, in Andrew Knight & Les Ruddock, eds, *Advanced Research Methods in the Built Environment* (Oxford: Oxford University Press, 2008).
- CILSS, *Landscapes of West Africa: A Window on a Changing World* (2016), (USA: US Geographical Survey EROS, 2016).
- Cohen, Felix, *The Legal Conscience: Selected Papers* (New Haven: Yale University Press, 1960)
- Correa, Carlos, ed, *Research Handbook on the Interpretation and Enforcement of Intellectual Property Under WTO Rules* (Cheltenham, UK: Edward Elgar, 2010).

- Correa, Carlos, *Plant Variety Protection in developing countries: A tool for designing a sui generis plant variety protection system: An alternative to UPOV 1991* (Germany: Association for Plant Breeding for the Benefit of Society (APBREBES) and its member organizations: Berne Declaration, Development Fund, SEARICE, Third World Network, 2015).
- Correa, Carlos, S. Shashikant & F. Meienberg, *Plant Variety Protection in Developing Countries: A Tool for Designing a Sui Generis Plant Variety Protection System: an Alternative to UPOV 1991* (Bonne: ARBEBES, 2015).
- Cullet, Philippe, *Food Security and Intellectual Property Rights in Developing Countries* (Geneve: RIBios et IUED, 2004).
- De Beer, Jeremy *et al*, eds, *Innovation & Intellectual Property: Collaborative Dynamics in Africa* (Cape Town: Open AIR and UCT Press, 2014).
- De Beer, Jeremy, ed, *Implementing WIPO's Development Agenda* (Waterloo: Wilfrid Laurier University Press, 2009).
- De Loma-Ossorio, Enrique, Carmen Lahoz & Luis F. Portillo, *Assessment on the Right to Food in the ECOWAS Region* (Rome: FAO, 2014).
- Deere, Carolyn, *The Implementation Game: The TRIPS Agreement and the Global Politics of Intellectual Property Reform in Developing Countries* (Oxford: Oxford University Press, 2008).
- DeVries, Joseph & Gary Toeniessen, *Securing the Harvest: Biotechnology, Breeding and Seed Systems for African Crops* (London: CABI, 2001).
- Dinwoodie, Graeme & Rochelle Dreyfuss, *A Neofederalist Vision of TRIPS: The Resilience of the International Intellectual Property Regime* (Oxford, UK: Oxford University Press, 2012).
- Drahos, Peter, *A Philosophy of Intellectual Property* (Abingdon, Oxon: Routledge, 2016).
- Ekpere, J., *The OAU's Model Law: The Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, An Explanatory Booklet* (Lagos: OAU Scientific, Technical and Research Commission, 2000).
- Eliot, Richard, *TRIPS and Rights: International Human Rights Law, Access to Medicines, and the Interpretation of the WTO Agreement on Trade Related Aspects of Intellectual Property Rights* (Montreal: Canadian HIV/AIDS Legal Network and AIDS Law Project (South Africa), 2001).
- FAO, *Formalization of Informal Trade in Africa: Trends, Experiences and Socio-Economic Impacts* (Accra: FAO, 2017).
- FAO, *Regional Overview of Food Insecurity in Africa: African Food Security Prospects Brighter than Ever* (Accra: FAO, 2015).
- FAO, *The State of Food Insecurity in the World 2001* (Rome: FAO, 2001).
- FAO, *Trade Reforms and Food Security Conceptualizing the Linkages* (Rome: FAO, 2003).
- Fellmeth, Aaron X. & Maurice Horwitz, *Guide to Latin in International Law* (Oxford: Oxford University Press, 2011).

- Finger, Michael & Philip Schuler, *Poor People's Knowledge: Promoting Intellectual Property in Developing Countries* (Washington, DC: World Bank, 2004).
- German Federal Ministry for Economic Cooperation and Development, *The UPOV Convention, Farmers' Rights and the Right to Food: An Integrated Assessment of Potentially Conflicting Legal Frameworks* (Bonn, Germany: GIZ, 2015).
- Gervais, Daniel, *Restructuring Copyright* (Cheltenham, UK: Edward Elgar, 2017).
- Grow Africa & Alliance for a Green Revolution in Africa (AGRA), *ECOWAS Rice Factbook* (Johannesburg: USAID, 2018).
- Haas, Ernst, *The Uniting of Europe* (Stanford: Stanford University Press, 1968).
- Hassan, Emmanuel, Ohid Yaqub & Stephanie Diepeveen, *Intellectual Property and Developing Countries: A Review of the Literature* (Santa Monica, CA: Rand Corp, 2010).
- Heller, Michael, *The Gridlock Economy: How Too Much Ownership Wrecks Markets, Stops Innovation and Costs Lives* (New York: Basic Books, 2008).
- Hillocks, R.J., J.M. Thresh & A.C. Bellotti, eds, *Cassava: Biology, Production and Utilization* (New York: CABI Publishing, 2002).
- Juma, Calestous, *The New Harvest: Agricultural Innovation in Africa* (New York: Oxford University Press, 2011).
- Kamil, Idris, *Intellectual Property: A Power Tool for Economic Growth* (Geneva: WIPO, 2003) WIPO Publication No.888.1, 2nd Edition.
- Khorana, Sangeeta *et al*, *Bilateral Trade Agreements in the Era of Globalization: The EU and India in Search of a Partnership* (Portland, Oregon: Edward Elgar, 2010).
- Klennert, Klaus (ed), *Achieving Food and Nutrition Security* (Lake Starnberg, Germany: InWent, 2005).
- Lawson, Charles, *Regulating Genetic Resources: Access and Benefit Sharing in International Law* (Edward Elgar, 2012).
- Lightbourne, Muriel, *Food Security, Biological Diversity and Intellectual Property Rights* (Burlington: Ashgate Publishing, 2009).
- Louwaars, Niels *et al*, *Impacts of Strengthened Intellectual Property Rights Regimes on the Plant Breeding Industry in Developing Countries: A Synthesis of Five Case Studies* (Wageningen, Netherlands: Wageningen UR, 2005).
- Maskus, Keith E., *Private Rights and Public Problems: The Global Economics of Intellectual Property in the 21st Century* (Washington, DC: Peterson Institute for International Economics, 2012).
- Monheim, Kai, *How Effective Negotiation Management Promotes Multilateral Cooperation: the power of process in Climate, Trade and Biosafety Negotiations* (London: Routledge, 2015).
- Moyo, Dambisa, *Dead Aid: Why Aid is not Working and how there is Another Way for Africa* (London: Allen Lane, 2009).
- Nnadozie, Kent *et al*, eds, *African Perspectives on Genetic Resources: A Handbook on Laws, Policies, and Institutions* (Washington D.C.: Environmental Law Institute, 2003).

- OECD & FAO, *Agricultural Outlook 2016-2025* (Paris: OECD Publishing, 2016).
- Oxfam, *Rigged Rules and Double Standards: Trade, Globalisation, and the Fight Against Poverty*, (Oxford: Oxfam, 2002).
- Pannhausen, Christoph, *Economic Partnership Agreements and Food Security: What is at Stake for West Africa?* (Bonn: DIE, 2006).
- Pauwelyn, Joost, *Conflict of Norms in Public International Law: How WTO Law Relates to Other Rules of International Law* (Cambridge: Cambridge University Press, 2003).
- Poku, Adusei, *Patenting of Pharmaceuticals and Development in Sub-Saharan Africa Laws, Institutions, Practices and Politics* (New York: Springer-Heidelberg, 2013).
- Ragavan, Srividhya, *Patent and Trade Disparities in Developing Countries* (Oxford: Oxford University Press, 2012).
- Ramcharan, Robin, *International Intellectual Property Law and Human Security* (The Hague, Netherlands: Dordrecht T. M. C. Asser Press, 2013).
- Rey de Marulanda, Nohra & Francisco Tancredi, *From Social Innovation to Public Policy: Success Stories in Latin America and the Caribbean*, (Santiago de Chile: ECLAC, 2015).
- Rodrigues, Edison, *The General Exception Clauses of the TRIPS Agreement: Promoting Sustainable Development* (Cambridge: Cambridge University Press, 2012).
- Ruivenkamp, Guido, Shuji Hisano & Joost Jongerden, eds, *Reconstructing Biotechnologies: Critical Social Analysis* (Wageingen, Netherlands: Wageingen Academic Publishers, 2008).
- Ruse-Khan, Henning, *The Protection of Intellectual Property in International Law* (Oxford: Oxford University Press, 2016).
- Sanderson, Jay, *Plants, People and Practices: The Nature and History of the UPOV Convention* (Cambridge: Cambridge University Press, 2017).
- Schiff, Maurice & Alan Winters, *Regional Integration and Development* (New York: Oxford University Press, 2003).
- Scotchmer, Suzanne, *Innovation and Incentives* (Cambridge Massachusetts: MIT Press, 2004).
- Sell, Susan K., *Private Power, Public Law: The Globalization of Intellectual Property Rights* (Cambridge: Cambridge University Press, 2003).
- Sen, Amartya, *Development as Freedom* (New York: Knopf, 1999).
- Serageldin, Ismail, et al, *Biotechnology and Sustainable Development: Voices of the South and North* (Wallingford: CABI, 2003).
- Shimanami, Ryo, ed, *The Future of the Patent System* (Cheltenham, UK: Edward Elgar Publishing, 2012).
- Sikoyo, George, Elvin Nyukuri & Judi Wakhungu, *Intellectual Property Protection in Sfrica: Status of Laws, Research and Policy Analysis in Ghana, Kenya, Nigeria, South Africa and Uganda* (Nairobi, Kenya: Acts Press, 2006).
- Smith, Chelsea & Susan H. Bragdon, *The Relationship between Intellectual Property Rights and Small-scale Farmer Innovations*, (Geneva: Quaker United Nations Office, 2016).

- Suthersanen, Uma, Graham Dutfield & Kit Boey Chow, eds, *Innovation without patents: Harnessing the creative spirit in a diverse world* (Cheltenham, UK: Edward Elgar, 2007).
- Tansey, Geoff & Tasmin Rajotte, eds, *The Future Control of Food* (London: Earthscan, 2008).
- Thailand, *Facts and evidences on the 10 burning issues related to the government use of patents on three patented essential drugs in Thailand*. (Bangkok: Ministry of Public Health and National Health Security Office, 2007).
- Timmer, Peter, *Food Security and Scarcity: Why Ending Hunger is So Hard* (Pennsylvania: University of Pennsylvania Press, 2015).
- Von Moltke, Konrad, *Implications of the Cotonou Agreement for Sustainable Development in the ACP Countries and Beyond* (Winnipeg, Manitoba, Canada: International Institute for Sustainable Development (IISD), 2004).
- Wenar, Leif, *The Stanford Encyclopaedia of Philosophy* (Stanford: Stanford University, 2015).
- WIPO, *A Guide to Intellectual Property Issues in Access and Benefit Sharing Agreements* (Geneva: WIPO, 2018).
- Wong, Tzen & Graham Dutfield, eds, *Intellectual Property and Human Development: Current Trends and Future Scenarios* (Cambridge: Cambridge University Press, 2011).
- World Bank Group, *Global Economic Prospects: Darkening Skies* (Washington DC: World Bank Group, 2019).
- World Health Organization (WHO), *Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property* (Geneva: WHO, 2011).
- Young, Margaret, *Trading Fish, Saving Fish: The Interaction Between Regimes in International Law* (Cambridge, UK: Cambridge Univ. Press, 2011).
- Zhuang, Wei, *Intellectual Property Rights and Climate Change: Interpreting the TRIPS Agreement for Environmentally Sound Technologies* (Cambridge: Cambridge University Press, 2017).

Articles

- Abbott, Frederick, "The WTO Medicines Decision: World Pharmaceutical Trade and the Protection of Public Health" (2005) 99 *AJIL* 317.
- Abbott, Frederick, "Toward a New Era of Objective Assessment in the Field of TRIPS and Variable Geometry for the Preservation of Multilateralism" (2005) 8 *JIEL* 77.
- Acemoglu, Daron & James Robinson, "The Role of Institutions in Growth and Development" (2010) 1:2 *Review of Economics and Institutions*, Article 1, at 1-7.
- Adams, Samuel, "Intellectual Property Rights, Innovation and Economic Growth in Sub-Saharan Africa", (2011) 28:1 *Journal of Third World Studies* 231.
- Adebowale, Boladale *et al*, "Innovation, research and economic development in Africa" (2014) 6:5 *African Journal of Science, Technology, Innovation and Development v.*

- Adejuwon, Olawale, Kehinde Taiwo & Mathew Ilori, “Promoting technology adoption in the small-scale oil palm fruit processing sector in south-western Nigeria: an innovation systems approach” (2014) 6:2 *African Journal of Science, Technology, Innovation and Development* 75.
- Adekunle, Bamidele & Monika Korzun, “Trading with China: How Can Africa Benefit?”, in Gbadebo Odulare & Bamidele Adekunle, eds, *Negotiating South-South Regional Trade Agreements: Economic Opportunities and Policy Directions for Africa* (Cham, Switzerland: Springer, 2017).
- Adenikinju, Adeola & Abiodun Bankole, “CGE Modeling of Impact of European Union-West Africa Economic Partnership Agreement on Nigeria” (2014) *Rapport*, University of Ibadan.
- Adenle, Ademola *et al*, “Developing GM Super Cassava for Improved Health and Food Security: Future Challenges for Africa” (2012) 1:1 *Agriculture & Food Security* 11.
- Adewopo, Adebambo, “The Global Intellectual Property System and Sub-Saharan Africa: A Prognostic Reflection” (2002) 33:4 *University of Toledo Law Review* 749.
- Adewopo, Adebambo, Tobias Schonwetter, & Helen Chuma-Okoro, “Intellectual Property Rights and Access to Energy Services in Africa: Implications for Development”, in Omorogbe, Yinka & Ordor, Ada, eds, *Ending Africa’s Energy Deficit and the Law: Achieving Sustainable Energy for All in Africa* (Oxford: Oxford University Press, 2018).
- African Centre for Biodiversity, “Civil Society Concerned with the Draft Protocol for the Protection of New Varieties of Plants (Plant Breeders’ Rights) in the Southern African Development Community Region (SADC)” (2 April 2013), online: <<http://acbio.org.za/wp-content/uploads/2015/02/CSO-submissionSADC.pdf>>.
- African Centre for Biodiversity, “Declaration on Plant Variety Protection and Seed Laws from the SouthSouth Dialogue’, Durban, South Africa” (29 November 2015), available at <<http://acbio.org.za/declaration-on-plant-variety-protection-andseed-laws-from-the-south-south-dialogue/>> (accessed 31 October 2016).
- African Centre for Biodiversity, “Towards national and regional seed policies in Africa that recognize and support farmer seed systems”, Policy Discussion Document, 2018.
- African Commission, “2011 Guidelines and Principles on Economic, Social and Cultural Rights in the African Charter on Human and Peoples’ Rights”, 2011, online: <www.achpr.org/instruments/economic-social-cultural>.
- AFSA & GRAIN, “Land and Seed Laws Under Attack: Who is Pushing Changes in Africa?”, *Report*, January 2015.
- Albin, Cecilia & Daniel Druckman, “Negotiating Effectively: Justice in International Environmental Negotiations” (2017) 26:1 *Group Decision and Negotiation*, 93.
- Albin, Cecilia & Daniel Druckman, “Procedures Matter: Justice and Effectiveness in International Trade Negotiations” (2014) 20:4 *European Journal of International Relations*, 1014.

- Alliance for Food Security and Sovereignty in Africa (AFSA), *AFSA Submission for Urgent Intervention in Respect to Draft ARIPO Plant Variety Protection Protocol (PVP) and Subsequent Regulations*, (July 2014). Online: <<http://acbio.org.za/wp-content/uploads/2015/02/AFSA-Susbmission-ARIPO-PVP-Protocol.pdf>>.
- Altieri, Miguel, “Agroecology, Small Farms, and Food Sovereignty” (2009) 61:3 *Monthly Review* 102.
- Altieri, Miguel, “The Ecological Role of Biodiversity in Agrosystems” (1999) 74:1 *Agriculture, Ecosystems and Environment* 19.
- Amechi, Emeka, “Leveraging Traditional Knowledge on the Medicinal Uses of Plants within the Patent System: The Digitisation and Disclosure of Knowledge in South Africa” (2015) 18:1 *Potchefstroom Electronic Law Journal* 3072.
- Anandajayasekeram, Ponniah, “The Role of Agricultural R&D within the Agricultural Innovation Systems Framework” (2016) *Conference Working Paper* no.6, prepared for the ASTI/IFPRI-FARA Conference, Accra Ghana, 5-7 December 2011.
- Aranda, Jose L.G., “Particularities of the ECOWAS-EU Economic Partnership Agreement”, *Africa Europe Faith and Justice Network* (AEFJN), 8 March 2017.
- Arewa, Olufunmilayo, “Nollywood: Pirates and Nigerian Cinema”, in Kate Darling & Aaron Perzanowski, eds., *Creativity Without Law: Challenging the Assumptions of Intellectual Property* (New York: New York University Press, 2017).
- Asogwa, I., J.I. Okoye & K. Oni, “Promotion of Indigenous Food Preservation and Processing Knowledge and the Challenge of Food Security in Africa” (2017) 5:3 *Journal of Food Security* 75.
- Association for Plant Breeding for the Benefit of Society (APBREBES), “Trade Deals Criminalize Farmers’ Seeds”, *GRAIN* (November 2014).
- Association for Plant Breeding for the Benefit of Society (APBREBES), “AFSA Makes Small Gains for Farmers’ Rights in Draft SADC PVP Protocol” (22 June 2014), available at <www.apbrebes.org/news/afsamakes-small-gains-farmers-rights-draft-sadc-pvp-protocol>.
- Awuku, Emmanuel, “Intellectual Property Rights, Biotechnology and Development: African Perspectives”, in Daniel Wuger and Thomas Cottier, eds, *Genetic Engineering and the World Trade System: World Trade Forum* (Cambridge: Cambridge University Press, 2008) at 109-117.
- Babatunde, Musibau, “Conforming to Sanitary and Phytosanitary Measures by African Smallholder Farmers: Challenges and Constraints” (April 2018), online: <https://www.researchgate.net/publication/324607025_CONFORMING_TO_SANITARY_AND_PHYTOSANITARY_MEASURES_BY_AFRICAN_SMALLHOLDER_FARMERS_CHALLENGES_AND_CONSTRAINTS>.
- Balogun, Olubunmi F., “Sustainable Agriculture and Food Crisis in Sub-Sahara Africa”, in Mohammed Behnassi, Draggan Sidney & Yaya Sanni, eds, *Global Food Insecurity:*

- Rethinking Agricultural and Rural Development Paradigm and Policy* (New York: Springer Science and Business Media, 2011) 283-297.
- Bankole, Abiodun, “Bilateral Investment Treaties Between ECOWAS and European Union Countries”, paper presented at the African Economic Conference, Tunis, Tunisia, 13 November 2008 [unpublished].
- Barilla Center for Food & Nutrition, *The Challenges of Food Security* (2011), online: <<https://www.barillacfn.com/m/publications/pp-challenges-food-security.pdf>>.
- Barkan, Steve, *Sociology: Comprehensive Edition* (2012), online: <<https://2012books.lardbucket.org/books/sociology-comprehensive-edition/s17-03-theories-of-power-and-society.html>> .
- Batur, Fulya & Tom Dedeurwaerdere, “The Use of Agrobiodiversity for Plant Improvement and the Intellectual Property Paradigm: Institutional Fit and Mass Selection, Conventional and Molecular Plant Breeding”, June (2014) 10:14 *Life Sciences, Society and Policy* 1.
- Bavier, Joe, “How Monsanto’s GM Cotton Sowed Trouble in Africa”, *Reuters Investigates*, 8 December 2017.
- Beall, Reed & Randall Kuhn, “Trends in compulsory licensing of pharmaceuticals since the Doha Declaration: a database analysis” (2012) 9:1 *PLoS Med* 1.
- Beckerman-Rodau, Andrew, “The Problem with Intellectual Property Rights: Subject Matter Expansion” (2011) 13 *Yale Journal of Law and Technology*, 35.
- Berthelot, Jacques, “David and Goliath: Argument against the Economic Partnership Agreements (EPAs) between the European Union and the African, Caribbean and Pacific Countries”, *Solidarite*, 28 December 2006.
- Berthelot, Jacques, “The West Africa-EU Economic Partnership Agreement is Absurd”, *Solidarite*, 15 May 2016.
- Betts, Alexander & Louise Bloom, “Humanitarian Innovation: The State of the Art”, in Lesley Bourns & Daniel Gilman, eds, *OCHA Policy and Studies Series* (New York: United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 2014) 5-28.
- Bilal, Sanoussi, “External Influences on Regional Integration in West Africa: The Role of Third Parties”, in Rike Sohn & Ama Konadu Oppong, eds, *Regional Trade and Monetary Integration in West Africa and Europe* (Bonn: Center for European Integration Studies, 2013) 33-56.
- Bilal, Sanoussi & Isabelle Ramdoo, “Regional Integration in Africa: The Impact of the Economic Partnership Agreements”, in Gotowski A. et al, eds., *Africa’s Progress in Regional and Global Economic Integration-Towards Transformative Regional Integration*, African Development Perspectives Yearbook Vol.8 (Lit Verlag, 2016) 229.
- Binswanger-Mkhize, Hans, “Challenges and Opportunities for African Agriculture and Food Security: High Food Prices, Climate Change, Population Growth and HIV and AIDS” (2009) *Report for FAO Expert Meeting on How to Feed the World in 2050*, 24-26 June 2009.

- Blakeney, Michael & Getachew Mengistie, “Intellectual Property and Economic Development in Sub-Saharan Africa” (2011) 14:3-4 *Journal of World Intellectual Property* 238.
- Blein, Roger et al, “Agricultural Potential of West Africa (ECOWAS)”, *Foundation pour l’agriculture et la ruralite dans le monde (FARM)*, February 2008.
- Bollier, David, “The Potato Park of Peru”, *The Green Political Foundation*, 25th January 2016. Online at: <<https://www.boell.de/en/2016/01/25/potato-park-peru>>.
- Borowiak, Craig, “Farmers’ Rights: Intellectual Property Regimes and the Struggles over Seeds”, (2004) 32:4 *Politics and Society*, 511.
- Bouet, Antoine, David Laborde & Fousseini Traoré, “The European Union-West Africa Economic Partnership Agreement Small Impact and New Questions” (2016) *IFPRI Discussion Paper* 01502.
- Boyle, James, “A Manifesto on WIPO and the Future of Intellectual Property” (2004) *Duke Law and Technology Review* 9.
- Boyo, Henry “EPA as ‘Enslavement Partnership Agreement’”, *Vanguard Newspaper Nigeria*, 18 September 2017.
- Boyo, Henry “Nigeria: EPA as ‘Enslavement Partnership Agreement’”, *Vanguard*, 18 September 2017.
- Bragdon, Susan, Kathryn Garforth & John Haapala Jr, “Safeguarding Biodiversity: The Convention on Biological Diversity (CBD)” in Geoff Tansey and Tasmin Rajotte, eds, *The Future Control of Food* (London: Earthscan, 2008) 82.
- Brenton, Paul & Carmine Soprano, “Smale-Scale Cross-Border Trade in Africa: Why it Matters and How it should be Supported”, *BRIDGES-Africa*, 5 June 2018.
- Broude, Tomer & Yuval Shany, “The International Law and Policy of Multi-sourced Equivalent Norms”, in Tomer Broude & Yuval Shany, eds, *Multi-Sourced Equivalent Norms in International Law* (Portland, Or, USA: Hart Publishing, 2011) 1-15.
- Brown, Kenneth, “How Processed Foods can Affect your Health”, *Very Well Fit*, 16 June 2018.
- Brush, Stephen, “Farmers Rights and Protection of Traditional Agricultural Knowledge” (2007) 35:9 *World Development* 1499.
- Bubela, Tania & Richard Gold, “Indigenous Rights and Traditional Knowledge”, in Tania Bubela & Richard Gold, eds, *Genetic Resources and Traditional Knowledge: Case Studies and Conflicting Interests* (Cheltenham: Edward Elgar, 2012) 1-27.
- Bulgarian Center for Not-for-Profit Law (BCNL), “Participation of NGOs in the Process of Policy and Law Making: Comparative Analysis”, online: <<http://www.icnl.org/research/resources/ngogovcoop/partngo.pdf>>.
- Busse, Matthias & Harald Großmann, “Assessing the Impact of ACP-EU Economic Partnership Agreement on West African Countries” (2004) *HWWA Discussion Paper* no.294.
- Busse, Matthias, Axel Borrmann & Harald Grossman, “The impact of ACP/EU Economic Partnership Agreements on ECOWAS Countries: An empirical Analysis of the Trade and Budget effects” (2004) *Hamburg Institute of International Economics*.

- Callo-Concha, Daniel et al, "Farming in the West African Sudan Savanna: Insights in the context of climate change" (2013) 8:38 *African Journal of Agricultural Research* 4693.
- CEPAL, "The Cotonou Agreement: Selected Issues, Effects and Implications for Caribbean Economies", (2005) CEPAL, LC/CAR/L.66.
- Chauvin, Nicolas, Francis Mulangu & Guido Porto, *Food Production and Consumption Trends in Sub-Sahara Africa: Prospects for the Transformation of the Agricultural Sector*, UNDP WP2012-011, February 2012.
- Chiarolla, Claudio, "Commodifying Agricultural Biodiversity and Development Related Issues" (2006) 9:1 *Journal of World Intellectual Property* 25.
- Cho, Sungjoon, "The Demise of Development in the Doha Round Negotiations" (2010) 45 *Texas International Law Journal* 573.
- Cissokho, Mamadou, *Discours au Congrès de la Coordination Rurale*, Caen, 28 November 2002.
- Claudie, David et al, "Ancient but New: Developing Locally Driven Enterprises Based on Traditional Medicines in Kuuku I'yu Northern Kaanju Homelands, Cape York, Queensland, Australia", in Peter Drahos & Susy Frankel, eds, *Indigenous People's Innovation: Intellectual Property Pathways to Development* (Canberra: ANU Press, 2012) 29-55.
- Conconi, Paola & Carlo Perroni, "Special and Differential Treatment of Developing Countries in the WTO" (2015) 14:1 *World Trade Review* 67.
- CONCORD, "The EPA between the EU and West Africa: Who Benefits?" (2015) *CONCORD Europe Spotlight Policy Paper*, 15 April 2015.
- Conton, Paul, "West African Rice Import Comparison", *The Sierra-Leone Magazine*, 14 January 2016.
- Cooke, Jennifer G. & Richard Downie, "African Perspectives on Genetically Modified Crops: Assessing the Debate in Zambia, Kenya, and South Africa" (2010) *CSIS Global Food Security Project Report*.
- Coolsaet, Brendan & John Pitseys, "Fair and Equitable Negotiations? African Influence and the International Access and Benefit-Sharing Regimes" (2015) 15:2 *Global Environmental Politics* 38.
- Coombe, Rosemary & Joseph Turcotte, "Cultural, Political and Social Implications of Intellectual Property Laws in an Informational Economy", in UNESCO-EOLSS Joint Committee, eds, *Culture, Civilization and Human Society: A Volume in the Encyclopedia of Life Support Systems (EOLSS), developed under the auspices of UNESCO* (Oxford: EOLSS publishers, 2012) 1-33.
- Cordeiro, Lorraine, "The Role of African Indigenous Plants in Promoting Food Security and Health", in H. Rodolfo Juliani, James E. Simon & Chi-Tang Ho, eds, *African Natural Plant Products Volume II: Discoveries and Challenges in Chemistry, Health and Nutrition* (American Chemical Society, 2013), 273-287.

- Cornish, Lisa, “What Impact will Trade Agreements have on Global Food Markets?” *DEVEX*, (14 March 2018), online: <<https://www.devex.com/news/what-impact-will-trade-agreements-have-on-global-food-markets-92307>>.
- Correa, Carlos, “Implications of the Doha Declaration on the TRIPS Agreement and Public Health” (2002) *WHO paper*, WHO/EDM/PAR/2002.3.
- Correa, Carlos, “Review of the TRIPS Agreement” (2001) *Third World Network*
- Correa, Carlos, “TRIPS Flexibility for Patents and Food Security: Options for Developing Countries”, (2013) 2:3 *Bridges Africa*, 17 June 2013, at 1.
- Correa, Carlos, “TRIPS-Related Patent Flexibilities and Food Security: Options for Developing Countries” in QUNO-ICTSD, *Policy Guide* (Geneva: QUNO-ICTSD, 2012), online: <<https://www.ictsd.org/sites/default/files/downloads/2012/10/trips-related-patent-flexibilities-and-food-security.pdf>>.
- Coste, Antoine & Erik Von Uexkull, “Benefits of the ECOWAS CET and EPA Will Outweigh Costs in Nigeria, but Competitiveness is the Real Issue” (2015) *African Trade Policy Notes*, no.43.
- Cottier, Thomas & Marina Foltea, “Constitutional Functions of the WTO and Regional Trade Agreements” in Lorand Bartels and Federico Ortino, eds, *Regional Trade Agreements and the WTO Legal System* (Oxford: Oxford University Press 2006) 43-74.
- Cullet, Philippe. “Food Security and Intellectual Property Rights in Developing Countries” (2003) *IERLC Working Paper 2003-3*
- Cullet, Philippe, “Plant Variety Protection in Africa: Towards Compliance with the TRIPS Agreement” (2001) 45:1 *Journal of African Law* 97.
- Cullet, Philippe, “Revision of the TRIPS Agreement concerning the Protection of Plant Varieties” (1999) 2:4 *Journal of World Intellectual Property* 617.
- Curtis, John, “Intellectual property rights and international trade: An overview” (2012) 3 *Centre for International Governance Innovation (CIGI) Papers* 1.
- Czermanska, Malgorzata & Joanna Garlinska-Bielawska, “European Union-West Africa Trade Relations: With or Without Economic Partnership Agreement (EPA) (2017) 17:2 *Annals of the Administration and Law* 103.
- Dada, Akinpelu, “Nigeria’s fertilizer consumption rose by 63% in 2017”, *Punch Newspaper Nigeria*, (27 June 2018), online:<<https://punchng.com/nigerias-fertilizer-consumption-rose-by-63-in-2017-report/>>.
- De Beer, Jeremy & Sara Bannerman, “Foresight into the Future of WIPO’s Development Agenda” (2010) 1:2 *The WIPO Journal* 211.
- De Beer, Jeremy, “Applying Best Practice Principles to International Intellectual Property Lawmaking” (2013) 44:8 *International Review of Intellectual Property and Competition Law* 884.

- De Beer, Jeremy, "Defining WIPO's Development Agenda" in Jeremy de Beer, ed, *Implementing the World Intellectual Property Organization's development agenda* (Waterloo, ON: Wilfred Laurier University Press, 2009) 1-23.
- De Beer, Jeremy, Izabela Sowa & Kristen Holman, "Frameworks for Analyzing African Innovation: Entrepreneurship, the Informal Economy and Intellectual Property", in Jeremy de Beer *et al* (eds), *Innovation and Intellectual Property: Collaborative Dynamics in Africa* (Cape Town: UCT, 2014) 32-57.
- De Jonge, Bram & Peter Munyi, "A Differentiated Approach to Plant Variety Protection in Africa (2016) 19:1-2 *Journal of World Intellectual Property* 28.
- De Jonge, Bram, "Plant Variety Protection in Sub-Saharan Africa: Balancing Commercial and Smallholder Farmers' Interests" (2014) 7:3 *Journal of Politics and Law* 100.
- Deacon, Harriet, "Transboundary Knowledge and Regional Protection in the Protection of Traditional Knowledge in Kenya" (2017) 12:3 *Journal of Intellectual Property Law and Practice*, 226.
- Decaluwe, Bernard *et al*, "A Study with Market Access and EPADP Scenarios Using the HS6 Model for the West Africa EPA" (2012) *Report for the European Commission [EC] and ECOWAS secretariats done by ITAQA Sarl, Volumes 1-4*.
- Deere, Carolyn, "The Politics of Intellectual Property Reform in Developing Countries: The Relevance of the World Intellectual Property Organization", in Neil Netanel, ed., *The Development Agenda: Global Intellectual Property and Developing Countries* (Oxford: Oxford University Press, 2008) 111-133.
- Delich, Valentina & Miguel Lengyel, "Can Developing Countries Use SPS Standards to Gain Access to Markets? The Case of Mercosur", in Marion Jansen *et al*, eds, *Connecting to Global Markets* (Geneva: WTO, 2014) 87.
- Deloitte, "Sector Assessment and Opportunities for ICT", *E-Transform Africa: Agricultural Sector Study*, 4 February 2012.
- Dieye, Cheikh, "What Future for Integration and Intra-regional Trade in West Africa?", *CACID Bulletin* no.4, March 2018.
- Dinwoodie, Graeme, "Private Ordering and the Creation of International Copyright Norms: The Role of Public Structuring" (2004) 160 *Journal of Institutional and Theoretical Economics* 161.
- Dinwoodie, Graeme & Annette Kur, "Framing the International Intellectual Property System", in Rochelle Dreyfuss & Elizabeth Ng, eds, *Framing Intellectual Property in the 21st Century: Integrating Incentives, Trade, Development, Culture and Human Rights* (Cambridge: Cambridge University Press, 2018).
- Downes, Gerard, "TRIPS and Food Security: Implications of the WTO's TRIPS Agreement for Food Security in the Developing World" (2004) 106:5 *British Food Journal* 366.
- Drahos, Peter, "Expanding intellectual property's empire: the role of FTAs", *GRAIN*, 30 November 2003.

- Drahos, Peter, “Indigenous Developmental Networks and the Non-Developmental State: Making Intellectual Property Work for Indigenous People without Patents”, in Ruth Okediji & Margo Bagley, eds, *Patent Law in Global Perspective* (New York: Oxford University Press, 2014) 287-320.
- Drahos, Peter, “Intellectual Property and Human Rights” (1999) 3 *Intellectual Property Quarterly* 349.
- Drahos, Peter, “The Universality of Intellectual Property Rights: Origins and Development”, in WIPO & Office of the United Nations High Commissioner for Human Rights (OHCHR), *Intellectual Property Rights and Human Rights* (Geneva: WIPO, 1999) WIPO publication no.762(E) 11.
- Dreyfuss, Rochelle & Susy Frankel, “From Incentive to Commodity to Asset: How International Law is Reconceptualizing Intellectual Property” (2015) 36:4 *Michigan Journal of International Law* 557.
- Dreyfuss, Rochelle, “The role of India, China, Brazil and other emerging economies in establishing access norms for intellectual property and intellectual property lawmaking” (2009) *Institute for International Law and Justice (IIJL) Working Paper* 2009/5 30 July 2009.
- Dutfield, Graham, “Sharing the Benefits of Biodiversity” (2002) 5:6 *Journal of World Intellectual Property* 899.
- Dutfield, Graham, “Sharing the Benefits of Biodiversity: Access Regimes and Intellectual Property Rights” (1999) *Science, Technology and Development Discussion Paper* 6.
- Deutsche Welle (DW), “Resistance of Genetically Modified Seeds in Africa” (19 July 2018), online: <<https://www.dw.com/en/resistance-to-genetically-modified-seeds-in-africa/a-44736633>>.
- Deutsche Welle (DW), “The Business of Poverty and Food Companies” (5 September 2018), online: <<https://www.youtube.com/watch?v=aPAz9iS5IxM>>.
- Economic Commission for Latin America and the Caribbean (ECLAC), *The Cotonou Agreement: Selected Issues, Effects and Implications for the Caribbean Economies*, LC/CAR/L.066 (2005).
- Edubi, Omotayo, “FAO urges Africa to formulate policies to boost rice production”, *The Sun News Nigeria* (15 October 2018), online: <<http://sunnewsonline.com/fao-urges-africa-to-formulate-policies-to-boost-rice-production/>>.
- Eicher, Carl, Karim Maredia & Idah Sithole-Niang (2006) “Crop Biotechnology and the African farmer”, 31:6 *Food Policy* 504.
- Engel, Jakob & Marie-Agnes Jouanjean, “Barriers to Trade in Food Staples in West Africa: an Analytical Review” (2013) *ODI Report*.
- Ezeanya, Chika, “Research, Innovation and Indigenous Knowledge in Africa: In Search of Nexus”, CODESRIA 14, Dakar Senegal, 8-12 June 2015.
- FAO, “Food Security Indicators”, 15 July 2019, online: <http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.W_ygQzhKjIU>.

- FAO, “Regional Integration and Food Security in Developing Countries”, *TCAS Working Document No.50*, April 2003.
- FAO, “The Agricultural Dimension of the ACP-EU Economic Partnership Agreements” (2006) 8 *FAO Commodities and Trade Technical Paper*.
- FAO, *Declaration of the World Summit on Food Security*, World Summit on Food Security, 16-18 November 2009, WSFS 2009/2.
- Ferrigno, Simon, Daouda Traoré & Silvere Tovignan, “Power in West African Cotton Supply Chains”, Fair Trade Advocacy Office *Report*, Brussels, February 2016.
- FIAN International, “Business Profits or Diverse Food Systems? Threats to peasant seeds and implications in West Africa”, *Global Network for the Right to Food and Nutrition Report*, February 2018.
- Fontagne, Lionel, Cristina Mitaritonna & David Laborde, “An Impact Study of the EU-ACP Economic Partnership Agreements (EPAs) in the Six ACP Regions”, in Commission of the EU-Director General for Trade, *Final Report January 2008* (Paris: CEPII-CIREM, 2007).
- Forero-Pineda, Clemente, “The Impact of Stronger Intellectual Property Rights on Science and Technology in Developing Countries” (2006) 35:6 *Research Policy* 808.
- Forsyth, Miranda & Sue Farran, “Intellectual Property and Food Security in Least Developed Countries” (2013) 34:3 *Third World Quarterly* 516.
- Foster, Neil, “Innovation and Technology Transfer Across Countries” (2012) *The Vienna Institute for International Economic Studies Research Reports* 380 (August 2012), online: <<https://wiiw.ac.at/innovation-and-technology-transfer-across-countries-dlp-2639.pdf>> .
- Galligan, Denis, “Review Essay, Having One’s Cake and Eating It: The Paradox of Contextualisation in Socio-Legal Research” (2011) 7:4 *International Journal of Law in Context* 487.
- Gana, Ruth, “The Myth of Development” (1996) 18:2-3 *Law & Policy* 315.
- Gangale, Riccardo, “UN Rights Chief Welcomes New Text to Protect Rights of Peasants and Other Rural Workers”, *UN News*, 18 December 2018.
- Gathii, James, “The Cotonou Agreement and Economic Partnership Agreements”, in UN-OHCHR, *Realizing the Right to Development* (New York: UN, 2013) 259-273.
- Geda, Alemayehu, “The Potential for Internal Trade and Regional Integration in Africa” (2015) 2:1 *Journal of African Trade* 19.
- Geiger, Christophe, “The Role of the Three-Step Test in the Adaptation of Copyright Law to the Information Society”, UNESCO, *Doctrines and Opinions*, e-Copyright Bulletin January-March 2007.
- Geiger, Christophe, “The Three-Step Test Revisited: How to Use the Test’s Flexibility in National Copyright Law”, (2013) *Program on Information Justice and Intellectual Property* (PIJIP) Research Paper 2013-04, at 6-11.

- Geiger, Christophe, Daniel Gervais & Martin Senftleben, “The Three-Step Test Revisited: How to Use the Test’s Flexibility in National Copyright Law”, (2014) 29:3 *American University International Law Review* 583.
- Gervais, Daniel, “Of Clusters and Assumptions: Innovation as Part of a Full TRIPS Implementation” (2009) 77:5 *Fordham Law Review* 2353.
- Gervais, Daniel, “TRIPS and Development”, in Mathew David & Debora Halbert, eds, *The SAGE Handbook of Intellectual Property* (Los Angeles: SAGE, 2015) at 90.
- Ghosh, Jayati, “Trade Liberalization in Agriculture: An Examination of Impact and Policy Strategies with Special Reference to India”, (2005) *Human Development Report Office*, Occasional paper, 2005/12.
- Global Alliance for Resilience (AGIR) in the Sahel and West Africa, ECOWAS, UEMOA & CILSS, “AGIR Regional Roadmap”, 9 April 2013.
- Gonzalez, Carmen, “Institutionalizing Inequality: The WTO Agreement on Agriculture, Food Security, and Developing Countries” (2002) *Colombia Journal of Environmental Law* 433.
- Gonzalez, Carmen, “The Global Politics of Food” (2011) 43:1 *The University of Miami Inter-American Law Review* 77.
- Gonzalez, Carmen, “World Poverty and Food Insecurity” (2015) 3:2 *Pennsylvania State Journal of Law and International Affairs* 55.
- Goold, Patrick, “The Interpretive Argument for a Balanced Three-Step Test” (2016) 33:1 *American University International Law Review* 187.
- Gopalakrishnan, N.S. & T.G. Agitha, “The Indian Patent System: The Road Ahead” in Ryo Shimanami, ed, *The Future of the Patent System* (Cheltenham, UK: Edward Elgar Publishing, 2012) 229-275.
- Gojstani, Nicholas, “Indigenous Knowledge for Development: Opportunities and Challenges” in Sophia Twarog & Promila Kapoor, eds, *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (New York: United Nations, 2004) 265, UNCTAD/DITC/TED/10.
- GRAIN, “Land and seed laws under attack: Who is pushing changes in Africa?” (21 January 2015) online: <<https://www.grain.org/es/article/entries/5121-land-andseed-laws-under-attack-who-is-pushingchanges-in-africa?print=true>>
- GRAIN, “Ten Reasons Not to Join UPOV”, *GRAIN* Issue no.2 (15 May 1998), online: <<https://www.grain.org/article/entries/1-ten-reasons-not-to-join-upov>>.
- Granieri, Massimiliano, “Genetically modified seeds, intellectual property protection and the role of law in transnational perspective”, in Giuseppe Bellantuono & Fabiano T. Lara, eds, *Law, Development and Innovation* (Cham: Springer International Publishing, 2016) 89.
- Greer, Steven, “Constitutionalizing Adjudication under the European Convention on Human Rights” (2003) *Oxford Journal of Legal Studies* 405.

- Gross, Rainer et al, “The Four Dimensions of Food and Nutrition Security: Definitions and Concepts”, *InWent* (April 2000), online:< <https://docplayer.net/16227921-The-four-dimensions-of-food-and-nutrition-security-definitions-and-concepts.html>>.
- Grover, Davinder, “Changes in Agricultural Landscape: Some Ecological Implications for Sustainable Agriculture in India Punjab” in Mohammed Behnassi, Draggan Sidney & Yaya Sanni, eds, *Global Food Insecurity: Rethinking Agricultural and Rural Development Paradigm and Policy* (New York: Springer Science and Business Media, 2011) 343-355.
- Gupta, J. & N. Sanchez, “Elaborating the common but differentiated principle in the WTO” in MC Segger & CC Weeramantry, eds, *Sustainable Development Principles in the Decisions of International Courts and Tribunals: 1992-2012* (London: Routledge, 2017) 425-441.
- Gupta, Joyeta & Nadia Sanchez “Elaborating the common but differentiated principle in the WTO”, in Marie-Claire Segger & C.G. Weeramantry, eds, *Sustainable Development in the Decisions of International Courts and Tribunals: 1992-2012* (New York: Routledge, 2017) 425.
- Haberli, Christian, “Food Security and WTO Rules”, in Baris Karapinar & Christian Haberli, eds, *Food Crisis and the WTO World Trade Forum* (Cambridge: Cambridge University Press, 2010) 297-322.
- Halewood, Michael & Kent Nnadozie, “Giving Priorities to the Commons: The International Treaty on Plant Genetic Resources for Food and Agriculture” in Geoff Tansey and Tasmin Rajotte, eds, *The Future Control of Food* (London: Earthscan, 2008) 115-140.
- Halewood, Michael *et al*, “Farmers, Landraces and Property Rights: Challenges to Allocating Sui Generis Intellectual Property Rights to Communities over their Varieties” in Susette Biber-Klem & Thomas Cottier, eds, *Rights to Plant Genetic Resources and Traditional Knowledge: Basic Issues and Perspectives* (Wallingford, Oxfordshire: CABI, 2006) 173-199.
- Hassan, Mehedi, “Special and Differential Treatment in the WTO: Its Content and Competence for Facilitation of Development” (2016) NAUJILJ 41.
- Haugen, Hans, “Inappropriate Processes and Unbalanced Outcomes: Plant Variety Protection in Africa Goes Beyond UPOV 1991 Requirements” (2015) 18:5 *Journal of World Intellectual Property* 196.
- Haugen, Morten, Manuel Muller & S. Narashim, “Food Security and Intellectual Property Rights: Finding the Linkages” (2011) *Intellectual Property and Human Development: Current Trends and Future Scenarios* 103.
- Heinonen, Hannu, *Regional integration and the state: the changing nature of sovereignty in Southern Africa and Europe*, (Helsinki: University of Helsinki, 2006).
- Helfer, Laurence, “Intellectual property rights in plant varieties: International legal regimes and policy options for national governments” (2004) *FAO Legislative Study* 85.
- Helfer, Laurence, “Mapping the Interference between Human Rights and Intellectual Property” in Christophe Geiger, ed, *Research Handbook on Human Rights and Intellectual Property* (Cheltenham: Edward Elgar Publishing, 2015) 6-15.

- Helfer, Laurence, "Regime Shifting: The TRIPS Agreement and New Dynamics of International Intellectual Property Lawmaking" (2004) 29:1 *Yale Journal of International Law* 1.
- Helleiner, Gerald, "Markets, Politics and Globalization: Can the Global Economy be Civilized?" (2000) 1 *CIS Working Paper*.
- Hoekman, Bernard, Constantine Michalopoulos & Alan Winters, "Special and Differential Treatment of Developing Countries in the WTO: Moving Forward After Cancun", (2004) 27:4 *The World Economy*, 481.
- Hovenkamp, Herbert, "Post Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective" (2011) 66 *N.Y.U. Ann. Surv. Am. L.* 487.
- Hulse, Merran, "Economic Partnership Agreements: Implications for Regional Governance and EU-ACP Development Cooperation" (2016) *German Development Institute Briefing Paper* (December, 2016).
- Humphries, Fran, "Technology Transfer of Aquatic Genetic Resources under the Convention on Biological Diversity and the Nagoya Protocol: Sponging Off Patent Law Defenses" (2016) 39:1 *University of New South Wales (UNSW) Law Journal* 234.
- Hurt, Stephen R., "Co-operation and Coercion? The Cotonou Agreement between the European Union and ACP States and the End of the Lome Convention" (2003) 24:1 *Third World Quarterly* 161.
- Hutchinson, Terry, "The Doctrinal Method: Incorporating Interdisciplinary Methods in Reforming the Law" (2015) 3 *Erasmus Law Review*.
- Ihugba, Bethel & Ikenna Onyese, "International Intellectual Property Agreements as Agents of Sustainable Development of Developing Countries" (2016) 9:1 *African Journal of Legal Studies* 1.
- International Fund for Agricultural Development (IFAD), "Smallholders, Food Security and the Environment" (2013) *ONU Environment*, 12 June 2013 online: <http://www.unep.org/pdf/SmallholderReport_WEB.pdf>.
- International Law Commission, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, Report of the Study Group of the International Law Commission-Conclusions, 18 July 2006, UN Doc A/CN.4/L.702.
- Ivus, Olena, "Patent Exhaustion in the United States and Canada", *CIGI Papers* No.159, January 2018.
- Jacques, Peter & Jessica Jacques, "Monocropping Cultures into Ruin: The Loss of Food Varieties and Cultural Diversity" (2012) 4 *Sustainability* 2970.
- James, Clive, "Global Status of Commercialized Biotech/GM Crops: 2011" (2011) *ISAAA Brief* No.43.
- Jason, H. "Trading with the enemy", *Foreign Policy in Focus* (16 February 2011), online: <http://fpif.org/trading_with_the_enemy/>.
- Juma, Calestous & Hezekiah Agwara, "African in the Global Economy: Strategic Options" (2006) 2:3-4 *International Journal of Technology and Globalization* 218.

- Juma, Calestous, "Feeding Africa: Why Biotechnology Sceptics are Wrong to Dismiss GM", *The Guardian*, (27 May 2014), online: <<https://www.theguardian.com/global-development-professionals-network/2014/may/27/gm-crops-food-security-calestous-juma-africa>>.
- Juma, Calestous, "Preventing Hunger: Biotechnology is Key" (2011) *Nature* 479.
- Kameri-Mbote, Patricia, "Intellectual Property Protection in Africa" (2005) 2 *IELRC Working Paper*.
- Kareem, Olayinka, "Product Standards and Africa's Agricultural Exports" (2014) *AGRODEP Working Paper* 009, December 2014.
- Karingi, Stephen & Laura Deotti, "Interim Economic Partnership Agreements Point to the Classic Regional Trade Agreements After All: Should African Countries Really be Worried?" (2009) *African Trade Policy Centre (ATPC) Work in Progress* no.75, April 2009.
- Karjiker, Sadulla, "PAIPO-Unnecessary and Unwanted" *Without Prejudice* (December 2012), online: <<http://blogs.sun.ac.za/iplaw/files/2016/04/PAIPO-unnecessary-and-unwanted.pdf>>.
- Karjiker, Sadulla, "Sizing up the 'Ill-Conceived' PAIPO draft statute", *Intellectual Property Watch*, 6th November 2012.
- Katz, Ariel, "Digital Exhaustion: North American Observations", in John Rothchild, ed., *Research Handbook on Electrical Commerce Law* (Edward Elgar, 2016) 137-167.
- Kawooya, D., "A new course for The Pan African Intellectual Property Organization is urgently needed", *Change.org Petition* (2012), online: <<http://www.change.org/petitions/a-new-course-for-the-pan-african-intellectual-property-organization-is-urgently-needed>>.
- Keating, William, "The Doha Round and Globalization: A Failure of World Economic Development?" (2015) *City University of New York (CUNY) Academic Works*.
- Kerner, Shann *et al*, "Examples Requirements for Patentability of Inventions in U.S. and Foreign Jurisdictions" (2009) 3:36 *Bloomberg Law Reports-Intellectual Property*.
- Khemani, R.S & D.M. Shapiro, *Glossary of Industrial Organisation Economics and Competition Law* (OECD, 2002), online: <<https://stats.oecd.org/glossary/detail.asp?ID=3236>>.
- Kinsella, Stephan, "Law and Intellectual Property in a Stateless Society" (2013) 5 *Libertarian Papers* 1.
- Konandreas, Panos, Ramesh Sharma & Alessandro Costantino, "Food Security in the East African Community: Impact of Regional Integration Under Customs Unions and Common Market Policies", *Final Report* for the European Commission Joint Research Centre (EC-JRC), Contract No.2014/346027, July 2015.
- Kone, Salif, "Economic Partnership Agreement between West Africa and the European Union in the Context of the World Trade Organization (WTO) and the Regional Integration Process" (2010) 25:1 *Journal of Economic Integration* 105.
- Koroma, Suffyan & J.R. Deep Ford, eds, "The Agricultural Dimension of the ACP-EU Economic Partnership Agreements", *FAO Commodities and Trade Technical Paper* no.8 (Rome: FAO, 2006).

- Krinninger, Theresa, “Burkina Faso abandons GM Cotton”, *Deutsche Welle: Made for Minds* (28 June 2016), online: <<http://www.dw.com/en/burkina-faso-abandons-gm-cotton/a-19362330>>
- Kristen Salvaggio, “Patent Law: First Sale Doctrine Does Not Extinguish Patentee’s Rights in Self-Replicating Organisms- Bowman v. Monsanto Co” (2014) 47:2 *Suffolk University Law Review* 451.
- Kuyek, Devlin, “Intellectual Property Rights in African Agriculture: Implications for Small Farmers”, Genetic Resources Action International (GRAIN), August 2002.
- La Via Campesina, “ARIPO’s Draft Protocol for the Protection of New Varieties of Plants (DRAFT Protocol) Undermines Farmers’ Rights, Lacks Credibility & Legitimacy”, *La Via Campesina* (14 April 2014), online: <<http://viacampesina.org/en/index.php/main-issues-mainmenu-27/biodiversity-and-genetic-resources-main-menu-37/1591-aripo-s-draft-protocol-for-the-protection-of-new-varieties-of-plants-draft-protocol-undermines-farmers-rights-lacks-credibility-legitimacy>> .
- La Via Campesina, “Seed Laws that Criminalize Farmers: Resistance and Fight Back”, *GRAIN* 8 (April 2015), online: <<https://www.grain.org/article/entries/5142-seed-laws-that-criminalise-farmers-resistance-and-fightback>>.
- Lauzon, Normand & Laurent Bossard, “The socio-economic and regional context of West African Migrations” (2006) *SAHEL AND WEST AFRICA CLUB & OECD Working document 1*, online: <<http://www.oecd.org/migration/38481393.pdf>>.
- Law Student, “Patent and Intellectual Property Issues In Africa International Law”, *Law Teacher.net* (2 February 2018), online: <<http://www.lawteacher.net/free-law-essays/international-law/patent-and-intellectual-property-issues-in-africa-international-law-essay.php?cref=1>>.
- Leal-Arcas, Rafael, “Proliferation of Regional Trade Agreements: Complementing or Supplanting Multilateralism?” (2011) 11:2 *Chicago Journal of International Law*, Article 23, 596.
- Legg, James, “Developing Clean Seed Systems for Cassava” IITA R4D Review, 13 April 2011; Tahirou Abdoulaye *et al*, “Awareness and Adoption of Improved Cassava Varieties and Processing Technologies in Nigeria” (2014) 62:2 *Journal of Development and Agricultural Economics* 67.
- Lenne, Jillian & David Wood, “Agrobiodiversity Revisited”, in Jillian Lenne & David Wood, eds, *Agrobiodiversity Management for Food Security: A Critical Review* (Wallingford: CAB Int., 2011) 1-12.
- Long, Jennifer, “Global Food Security and Intellectual Property Rights” (2013) 21:1 *Michigan State International Law Review* 115.
- Louwaars, Niels, “Controls Over Plant Genetic Resources: A Double-Edged Sword” (2006) 7:4 *Nature Reviews Genetics* 241.

- Mabeya, Justin & Obidimma Ezezika, “Unfulfilled Farmers Expectations: The Case of the Inset Resistant Maize for Africa (IRMA) Project in Kenya” (2012) 1 *Agriculture and Food Security*.
- Machuka, Jesse, “African Biotechnology for Africa. African Scientists and Farmers Must Feed Their Own People”, *American Society of Plant Physiologists* (2001), online: <<http://www.plantphysiol.org/content/plantphysiol/126/1/16.full.pdf>> .
- Malmström, Cecilia, “Trade for all. Towards a more responsible trade and investment policy” (June 2015), online: <http://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153846.pdf>.
- Mandelson, Peter, “Global Europe: competing in the World”, European Commission (4 October 2006), online: <http://ec.europa.eu/commission_barroso/mandelson/speeches_articles/sppm117_en.htm>.
- Mansfield, Edwin, “Intellectual property Protection, Foreign Direct Investment and Technology Transfer” (1994) *IFD Discussion Paper No.19*, 28 February 1994.
- Mansfield, Edwin, “Patents and Innovation: An Empirical Study” (1986) 32 *Management Science*, 173.
- Manu, Thaddeus, “Ghana trips over the TRIPS Agreement on Plant Breeders’ Rights” (2016) 9 *African Journal of Legal Studies*, 20-45.
- Manu, Thaddeus, “Self-defeating Reasons for Signing the African Growth and Opportunities Act: Analyzing the Pressure on African Countries to Enact UPOV Convention Plant Breeders’ Rights as Opposed to Effective *Sui Generis* Regimes under TRIPS” (2015) 44:1 *Common Law World Review* 3.
- Manufacturers Association of Nigeria [MAN], “MAN Position on ECOWAS-EU Economic Partnership Agreement (EPA)” *The Punch Newspaper* Nigeria (5 June 2015).
- Maskus, Keith E. & Jerome H. Reichman, “The Doha Round’s Public Health Legacy: Strategies for the Production and Diffusion of Patented Medicines under the Amended TRIPS Provisions” (2007) 9:1 *Journal of International Economic Law*, 921.
- Maskus, Keith E. & Jerome H. Reichman, “The Globalization of Private Knowledge Goods and the Privatization of Global Public Goods” (2004) 7:2 *Journal of International Economic Law* 279.
- Maskus, Keith E., “Intellectual Property Rights and Economic Development” (2000) 32:3 *Case Western Reserve Journal of International Law* 471.
- Maskus, Keith E., “The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment” (1998) 9 *Duke Journal of Comparative and International Law* 109.
- Mathews, Joel, “Understanding Indigenous Innovation in Rural West Africa: Challenges to Diffusion of Innovations Theory and Current Social Innovation Practice” (2017) 18:2 *Journal of Human Development and Capabilities* 223.
- Mayer, Jorg, “Policy Space: What, For What, and Where?”, *UNCTAD Discussion Paper* no.191, October 2008.

- Mayer, Jorg, “What, For What, and Where?” (2009) 27:4 *Development Policy Review* 373.
- Mbaval, Joseph *et al*, “Pattern of Adoption and Constraints to Adoption of Improved Cowpea Varieties in the Sudan Savanna Zone of Northern Nigeria” (2015) 7:12 *Journal of Agricultural Extension and Rural Development*, 322.
- McCook, Wayne, “Rethinking Special and Differential Treatment: Towards an Integration of S&D Principles into the 21st Century” (2015) 4:9, *Bridges Africa* (11th November 2015).
- Meinzen-Dick, Ruth & Rajendra Pradhan, “Legal Pluralism and Dynamic Property Rights” (2002) *CAPRI Working Paper no.22*.
- Merso, Fikremarko, “A Look into the Real Picture of IP Challenges for African LDCs”, *BRIDGES Africa*, 10th October 2013.
- Meunier, Sophie & Kalypso Nicolaidis, “The European Union as a Conflicted Trade Power” (2006) 13:6 *Journal of European Public Policy* 906.
- Mgbeoji, Ikechi, “The Comprador Complex: Africa’s IPR Elite, Neo-Colonialism and the Enduring Control of African IPR Agenda by External Interests” (2014) *Osgoode Legal Studies Research Paper* 32/2014.
- Mhula, Alexandra, Tim Hart, & Peter Jacobs, “The dynamics of local innovations among formal and informal enterprises: Stories from rural South Africa” (2014) 6:3 *African Journal of Science, Technology, Innovation and Development*, 175.
- Michaels, Ralf & Joost Pauwelyn, “Conflict of Norms or Conflict of Laws? Different Techniques in the Fragmentation of International Law” (2012) 22:3 *Duke Journal of Comparative and International Law* 349.
- Mishra, Jai, “Intellectual Property Rights and Food Security: The Efficacy of International Initiatives” (2001) 4:1 *Journal of World Intellectual Property* 5.
- Moerland, Anke, “Do Developing Countries have a Say? Bilateral and Regional Intellectual Property Negotiations with the EU” (2017) 48 *International Review of Intellectual Property and Competition Law*, 760.
- Moseley, William, Carney Judith & Becker Laurence, “Neoliberal policy, rural livelihoods, and urban food security in West Africa: A Comparative Study of The Gambia, Cote d’Ivoire, and Mali” (2010) 107:13 *Proceedings of the National Academy of Science (PNAS) of the United States of America* 5774.
- Moyo, Sam, “Family Farming in Sub-Saharan Africa: its contribution to agriculture, food security and development” (2016) *FAO Working Paper* no.150.
- Muheebwa, Hillary, “ARIPO Reviews of Draft Regulations on Implementation of Arusha Protocol on Plant Varieties”, *IP Watch*, 24 June 2016.
- Mukhtar, Ahmad, “Enhancing Food Security in Africa through Implementing the Trade Facilitation Agreement”, 6:3 *Bridges Africa* (17 May 2017) online: <https://www.ictsd.org/bridges-news/bridges-africa/news/enhancing-food-security-in-africa-through-implementing-the-trade>.

- Munyi, P., B. de Jonge & B. Visser, "Opportunities and Threats for to Harmonisation of Plant Breeders' Rights in Africa: ARIPO and SADC" (2016) 24:1 *African Journal of International and Comparative Law* 86.
- Mupangavanhu, Yeukai, "The protection of intellectual property rights within the continental free trade area in Africa: Is a balance between innovation and trade possible?" (2018) 15:4 *International Journal of Business, Economics and Law*.
- Mushita, Andrew & Carol Thompson, "At Issue: More Ominous than Climate Change? Global Policy Threats to African Food Production" (2013) 13:4 *African Studies Quarterly*, 1.
- Mutume, Gumisai, "New Barriers Hinder African Trade", *African Renewal*, January 2006.
- Mwangi, Jeannette, "TRIPS and Agricultural Biotechnology: Implications for the Right to Food in Africa", in Mpazi Sinjela, ed, *Human Rights and Intellectual Property Rights: Tensions and Convergences*, (Leiden/Boston: Martinus Nijhoff Publishers, 2007) 241-287.
- Ncube, Caroline & Eliamani Laltaika, "A New Intellectual Property Organization for Africa?" (2013) 8:2 *Journal of Intellectual Property Law & Practice*, 114.
- Ncube, Caroline, "Harnessing Intellectual Property for Development: Some Thoughts on an Appropriate Theoretical Framework" (2013) 16:4 *Potchefstroom Electronic Law Journal*, 369.
- Ncube, Caroline, "Key Copyright Issues in African Distance Education: A South African Case Study" (2011) 32:2 *Distance Education*, 269.
- Ncube, Caroline, "The Development of Intellectual Property Policies in Africa- Some Key Considerations and a Research Agenda" (2013) 1:1 *Intellectual Property Rights*, 1.
- Ngombe, Laurier, "The Protection of Folklore in the Swakopmund Protocol Adopted by the ARIPO (African Regional Intellectual Property Organization) (2011) 14:5 *The Journal of World Intellectual Property* 403.
- New York Academy of Sciences, "Delivery of Technology to Resource Poor Farmers in Africa" (2008) 1136 *Annals of the New York Academy of Sciences* 369.
- Nwauche, Enyinna, "An Evaluation of the African Regional Intellectual Property Rights Systems" (2003) 6 *The Journal of Intellectual Property*, 137.
- Nwauche, Enyinna, "The Swakopmund Protocol and the Communal Ownership and Control of Expressions of Folklore in Africa" (2014) 17:5-6 *The Journal of World Intellectual Property* 191.
- Nwoke, Chibuzo, "EU-ECOWAS Economic Partnership Agreement: Nigeria's Role in Securing Development Focus and Regional Integration", 2009 African Economic Conference, Addis Ababa, Ethiopia, 11-13 November 2009.
- Nwoke, Chibuzo, "Nigeria and the Challenge of the EPA" (2008) 7:9 *Trade Negotiations Insights*.
- O'Leary, Ronald, "Flexibility and Balance: Solutions to the International IP Problem" (2017) 16:2 *Journal of International Business and Law* 275.

- OECD, “Innovation for Development” (May 2012), online: <https://www.oecd.org/innovation/inno/50586251.pdf>.
- Oguamanam, Chidi, “Breeding Apples for Oranges: Africa’s Misplaced Priority over Plant Breeders Rights” (2015) 18:5 *Journal of World Intellectual Property* 165.
- Oguamanam, Chidi, “Intellectual Property Rights in Plant Genetic Resources: Farmers’ Rights and Food Security of Indigenous and Local Communities” (2006) 11 *Drake J. Agric. L.* 273.
- Oguamanam, Chidi, “Intellectual Property, Agricultural Biotechnology and the Right to Adequate Food: A Critical Perspective” (2015) 23:3 *African Journal of International and Comparative Law*, 503.
- Oguamanam, Chidi, “Towards a Constructive Engagement: Agricultural Biotechnology as a Public Health Incentive in Less-Developed Countries” (2012) 7 *Journal of Food and Law Policy*, 258.
- Okafor, Obiaro C., “‘Righting’ the Right to Development: A Socio-Legal Analysis of Article 22 of the African Charter on Human and Peoples’ Rights”, in Stephen P. Marks, ed, *Implementing the Right to Development: The Role of International Law* (Cambridge, MA: Harvard University, 2008) 52-63.
- Okediji, Ruth, “Traditional Knowledge and the Public Domain” (2018) *CIGI Papers* No.176.
- Okediji, Ruth, “WIPO-WTO Relations and the Future of Global Intellectual Property Norms” (2008) 39 *Netherlands Yearbook of International Law* 69.
- Oladunjoye, Felix, “Impact of EPA on Agriculture (Cocoa Processing Industry)”, paper presented at MAN/NSEG Workshop on Economic Partnership Agreements, Lagos, May 15-16, 2008.
- Omiti, John, Rosemary Chacha & Mosoti Andama, “Biotechnology can Improve Food Security in Africa” (2007) 2:2 *African Journal of Food, Agriculture, Nutrition and Development* 14.
- Onuba, Ifeanyi, “EPA: A Trade Pact Nigeria Not Willing to Adopt”, *Punch*, September 11, 2016.
- Organisation for Economic Co-operation and Development [OECD], *Stats of the Week: Food Security in West Africa* (2017), online: www.oecd.org/statistics/stats-of-the-week-food-security-in-west-africa.htm.
- Oritsejafor, Emmanuel, “Food Security in Sub-Saharan Africa: A Case Study” (2010) 4:1 *African Social Science Review* Article, 52.
- Oxfam, “Food Security, Agriculture, and Livelihoods”, (2016 *Policy Article*), online: <https://policy-practice.oxfamamerica.org/work/food-agriculture-livelihoods/> .
- Oyejide, Ademola, “Policies for Regional Integration in Africa” (2000) *African Development Bank Economic Research Papers* No.62.
- Park, Walter & Douglas Lippoldt, “Technology Transfer and the Economic Implications of the Strengthening of Intellectual Property Rights in Developing Countries” (2008) *OECD Trade Policy Working Papers* no.62.

- Parker, Christine & Hope Johnson, "From Food Chains to Food Webs: Regulating Capitalist Production and Consumption in the Food System" (2019) 15 *Annual Review of Law and Social Science*, 205.
- Parsons, Talcott, "On the Concept of Power" (1963) 107:3 *Proceedings of the American Philosophical Society* 232.
- Pauwelyn, Joost, "Foreword" in Graham Cook, *A Digest of WTO Jurisprudence on Public International Law Concepts and Principles* (Cambridge: Cambridge University Press, 2015) xiii.
- Pauwelyn, Joost, "The Role of Public International Law in the WTO: How Far Can We Go?" (2001) 95 *American Journal of International Law*, 535.
- Payumo, Jane et al, "Intellectual Property and Opportunities for Food Security in the Philippines" (2013) 21:1 *Michigan State International Law Review* 125.
- Payumo, Jane, Evelyn Akofa Lemgo & Karim Maredia, "Transforming Sub-Saharan Africa's Agriculture through Agribusiness Innovation" (2017) 4:1 *Global Journal of Agricultural Innovation, Research & Development* 1.
- Pellicer-Sifres, Victoria et al, "Grassroots Social Innovation for Human Development: An Analysis of Alternative Food Networks in the City of Valencia (Spain)" (2017) 18:2 *Journal of Human Development and Capabilities* 258.
- Perez, Romain & Stephen Karingi, "How to Balance the Outcomes of the Economic Partnership Agreements for Sub-Saharan African Economies" (2007) *The World Economy* 1877.
- Perzanowski, Aaron & Jason Schultz, "Digital Exhaustion" (2011) 58:4 *UCLA Law Review* 889.
- Petersmann, Ernst-Ulrich, "The WTO and Regional Agreements as Competing for Constitutional Reforms: Trade and Human Rights" in Lorand Bartels and Federico Ortino, eds., *Regional Trade Agreements and the WTO Legal System* (Oxford: Oxford University Press 2006), 281-312.
- Phiri, Dorica "Economic Partnership Agreements and Intellectual Property Rights Protection: Challenges for the Southern African Development Community Region" (2009) *South African Institute of International Affairs (SAIIA) Occasional Paper* No.48, October 2009.
- Piccolino, G. & S. Minou, "The EU and Regional Integration in West Africa: Effects on Conflict Resolution and Transformation" (2014) *University of Pretoria RegioConf Working Paper*.
- Pieters, Hannah, Andrea Guariso & Anneleen Vandeplass, "Conceptual Framework for the Analysis of the Determinants of Food and Nutrition Security" (2013) *FOODSECURE* Working paper no.13.
- Prakash, C. S, "Benefits of Biotechnology for Developing Countries", *AgBioWorld Article* (2011), online: < <http://www.agbioworld.org/biotech-info/topics/dev-world/benefits.html>>.
- Prasad, Ram, U.S Bagde & Ajit Varma, "An Overview of Intellectual Property Rights in Relation to Agricultural Technology" (2012) 11:73 *African Journal of Biotechnology* 13746.
- Qaim, Matin & David Zilberman, "Yield Effects of Genetically Modified Crops in Developing Countries" (2003) 299 *Science* 902.

- Qaim, Matin & Shahzad Kouser, “Genetically Modified Crops and Food Security” (2013) 8:6 *PLoS ONE* 1.
- Quinn, Gene, “CAFC Reaffirms Patent Exhaustion Doctrine Cases en banc in Lexmark Int’l v. Impression Products”, *IP Watchdog* (21 February 2016), online: <<http://www.ipwatchdog.com/2016/02/21/cafc-reaffirms-patent-exhaustion-doctrine-lexmark-v-impression-products/id=66314/>>.
- RAFI, “TRIPS Traps for Small Farmers: The Impact of IPRs on Sustainable Food Security and Farm Families Remains to be Felt”, *RAFI Genotype*, May 1999.
- Ramdoo, Isabelle, “ECOWAS and SADC Economic Partnership Agreements: A Comparative Analysis” (2014) *European Centre for Development Policy Management Discussion Paper* no.165.
- Raustiala, Kal & David Victor, “The Regime Complex for Plant Genetic Resources” (2004) 58:2 *International Organization* 277.
- Reddy, G. & Harunrashid Kadri, “Local Working of Patents-Law and Implementation in India” (2013) 18 *Journal of Intellectual Property Rights* 15.
- Redqueen, Steward, “Who Benefits from Intellectual Property Rights for Agricultural Innovation? The Case of Ogura Oilseed Rape in France” (2015) *Final Report Commissioned by CropLife Int. & EuropaBio*, 8 October 2015.
- Reichman, Jerome, “Comment: Compulsory Licensing of Patented Pharmaceutical Inventions: Evaluating the Options” (2009) 37 *J Law Med Ethics* 247.
- Richards, Paul, “Seed Systems for African Food Security: Linking Molecular Genetic Analysis and Cultivator Knowledge in West Africa” (2009) 45:1-2 *Int. J. Technology Management* 196.
- Riles, Annelise, “Property as Legal Knowledge: Means and Ends” (2004) 10:4 *Journal of the Royal Anthropological Institute* 775.
- Roffe, Pedro, David Vivas & Gina Vea, “Maintaining Policy Space for Development: A Case Study of IP Technical Assistance in FTAs” (2007) ICTSD Issue Paper no.19.
- Roht-Arriaza, Naomi, “Of Seeds and Shamans: The Appropriation of the Scientific and Technical Knowledge of Indigenous and Local Communities” (1996) 17 *Michigan Journal of International Law* 919.
- Roseboom, J., “Creating an Enabling Environment for Agricultural Innovation”, in Roseboom, J., ed *The World Bank Agricultural Innovation Systems: An Investment Sourcebook* (Washington, D.C: The World Bank, 2012).
- Roth, Joseph, “Exhaustion Cannot Stifle Innovation: A Limitation on the First Sale Doctrine” (2015) 5 *UC Irvine Law Review* 1231.
- Rotstein, Fiona, “Is there an International Intellectual Property System?” (2011) 33:1 *European Intellectual Property Review* 1.
- Rural Advancement Foundation International (RAFI), “TRIPS Traps or Dice? Gambling with World Food Security”, *Echoes*, online: <<http://www.rrojasdatabank.info/trade1.htm>>.

- Ruse-Khan, Henning & Annette Kur, “Enough is enough: The notion of binding ceilings in international intellectual property protection” (2008) *Max Planck Institute for Intellectual Property, Competition & Tax Law Research Paper Series* No 09-01.
- Ruse-Khan, Henning *et al*, “Principles for Intellectual Property Provisions in Bilateral and Regional Agreements” (2013) *IIC* 44:878.
- Ruse-Khan, Henning, “A Real Partnership for Development? Sustainable Development as Treaty Objective in European Economic Partnership Agreements and Beyond” (2010) 13:1 *Journal of International Economic Law* 139, at 160-167.
- Ruse-Khan, Henning, “Policy Space for Domestic Public Interest Measures Under TRIPS” (2009) 21 *South Centre Research Papers*.
- Ruse-Khan, Henning, “Proportionality and Balancing within the Objectives for Intellectual Property Protection” in Paul Torremans, ed, *Intellectual Property and Human Rights* (Alphen aan de Rijn, The Netherlands: Kluwer Law International, 2008).
- Ruse-Khan, Henning, “Sustainable Development in International Intellectual Property- New Approaches from EU Economic Partnership Agreements?”, *ICTSD Issue Paper* no.29, September 2010.
- Ruse-Khan, Henning, “The International Law Relation Between TRIPS and Subsequent TRIPS- Plus Free Trade Agreements: Towards Safeguarding TRIPS Flexibilities?” (2011) 18:2 *Journal of Intellectual Property Law* 325.
- Rwanda Ministry of Trade and Industry, *MINICOM Annual Report 2012/13* (Ministry of Trade and Industry (October 2013), online: http://www.minicom.gov.rw/fileadmin/minicom_publications/Reports/MINICOM_Annual_Report_2012-13-2.pdf).
- Sackey, Emmanuel & Ossy Kasilo, “Intellectual Property Approaches to the Protection of Traditional Knowledge in the African Region” (2010) 13 *African Health Monitor*.
- Saez, Catherine, “African Regional Plant Variety Protection Draft Legislation Raises Protests”, *Intellectual Property Watch* (5 April 2013).
- Sahel and West Africa Club & OECD, “Agricultural Biotechnology and the Transformation of West African Agriculture” (2006) *SWAC Overview*, September 2006, SAH/D(06)558.
- Sahel and West Africa Club & OECD, “The Family Economy and Agricultural Innovation in West Africa: Towards New Partnerships” (2005) *SWAC Overview*, March 2005, SAH/D(2005) 550.
- Sanders, Ronald, “The EU, Economic Partnership Agreements and Africa” (2015) 104:5, *The Round Table* 563.
- Schutter, Oliver, “2009 Seed policies and the right to food: enhancing agrobiodiversity and encouraging innovation”, in APRODEV, “Seeds and Food Security: The Impact of EU Seed Laws on Food Security in Africa”, *APRODEV PCD Discussion Paper on Seeds and Food Security*, (December 2014).

- Schutter, Oliver, *Report submitted by the Special Rapporteur on the right to food*, UNGA HRC, 16th Sess, UN Doc. A/HRC/16/49 (2010).
- Segger, M.C. & M. Gehring, 'Sustainable Development in World Trade Law' & 'Introduction', in M.C. Cordonier Segger & M. Gehring, eds., 'Sustainable Development in World Trade Law', (The Hague: Kluwer Law International, 2005) 1-24.
- Sell, Susan K., "What Role for Humanitarian Intellectual Property? The Globalization of Intellectual Property Rights" (2004) 6:1 *Minnesota Journal of Law, Science and Technology* 191.
- Shabalala, Dalindybo, "Intellectual Property in European Union Economic Partnership Agreements with the African, Caribbean and Pacific Countries: What Way Forward After the CARIFOUM EPA and the Interim EPAs?", *Center for International Environmental Law (CIEL) Discussion Paper*, April 2008.
- Shabalala, Dalindybo, "The European Approach to Intellectual Property in European Partnership Agreements with the African, Caribbean and Pacific Group of Countries", *CIEL Discussion Paper*, April 2007.
- Shadlen, Kenneth, "Policy Space for Intellectual Property Management: Contrasting Multilateral and Regional Bilateral Arrangements" (2008) 10:2 *ECONOMICA*, Rio de Janeiro.
- Shen, Aviva, "Why Seven African Nations Joined Anti-Monsanto Protests Last Weekend", *Think Progress*, (17 October 2013), online: <<https://thinkprogress.org/why-seven-african-nations-joined-anti-monsanto-protests-last-weekend-e6ecf0dd165b/>>.
- Shiva, Vandana, "The Future of Food: Countering Globalisation and Recolonisation of Indian Agriculture" (2004) 36:6 *Futures* 715.
- Simma, Bruno, "Reciprocity", in Rudiger Wolfrum & Margret Solveigardottir, eds, *Max Planck Encyclopedia of Public International Law* (Oxford: Oxford University Press, 2008).
- Slade, Alison, "The 'Objectives' and 'Principles' of the WTO TRIPS Agreement: A Detailed Anatomy" (2016) 53:3 *Osgoode Hall Law Journal*, 948.
- Soule, Bio Goura, "West African Cross-Border Trade: Trends and Opportunities", *Bridges Africa* (5th June 2018), online: < <https://www.ictsd.org/bridges-news/bridges-africa/news/west-african-cross-border-trade-trends-and-opportunities>>.
- Statista, "Principal rice importing countries worldwide in 2017/2018", *The Statistics Portal* (2019), online: <<https://www.statista.com/statistics/255948/top-rice-exporting-countries-worldwide-2011/>>.
- Strba, Susan, "Intellectual Property Pluralism in African Development Agendas: food security, plant variety protection and the role of WIPO", in Susy Frankel, ed, *Is Intellectual Property Pluralism Functional?* (North Hampton, MA: Edward Elgar Publishing, 2019) 37-65.
- Strba, Susan, "Legal and Institutional Considerations for Plant Variety Protection and Food Security in African Development Agendas: Solutions from WIPO?" (2017) 12:3 *Journal of Intellectual Property Law and Practice* 191.

- Sunderland, Terry, “Food Security: Why is Biodiversity Important?” (2011) 13:3 *International Forestry Review* 265.
- Sustainable Agriculture Initiative [SAI] Platform Arable and Vegetable Crops Working Group, *Principles and Practices for the Sustainable Production of Arable and Vegetable Crops* 2009 (2010), online: <www.saiplatform.org/uploads/Modules/Library/pps-arable-vegetable-crops-2009.pdf> .
- Syam, Nirmalya & Viviana Tellez, “Innovation and Global Intellectual Property Regulatory Regimes-The Tension between Protection and Access in Africa” (2016) 67 *South Centre Research Paper*.
- Takehima, Hiroyuki *et al*, “Nigerian Farmers Preferences on the Timing of the Purchase of Rice, Cowpea, and Maize Seeds” (2010) *Nigerian Strategy Support Program (NSPP) Working Paper No. 0020*.
- Taubman, Antony, “TRIPS jurisprudence in the balance: Between the realist defence of policy space and a shared utilitarian ethic”, in Christian Lenk *et al*, eds., *Ethics and law of IP: Current problems in politics, science and technology* (Burlington, VT: Ashgate, 2007), 89-120.
- Taylor, Lynne, “India Revokes Roche’s Patent on Pagasys”, *Pharma Times Digital Magazines* (5 November 2012), online: <http://www.pharmatimes.com/news/india_revokes_roches_patent_on_pegasys_976312> .
- Taylor, Michael & Jerry Cayford, “Biotechnology Patents and African Food Security: Aligning America’s Patent Policies and International Development Interests” (2004) 6:1 *Minnesota Journal of Law, Science, and Technology* 277.
- The Economist Intelligence Unit, “Global Food Security Index 2016” (2017), online: <<http://foodsecurityindex.eiu.com/>> .
- The IGLP Law & Global Production Working Group, “The Role of Law in Global Value Chains: A Research Manifesto” (2016) 4:1 *London Review of International Law* 57.
- The Secretary General, *Progress towards the Sustainable Development Goals*, UN Economic and Social Council (UNESCO), 2016, UN Doc E/2016/75 (2016).
- The World Bank, African Development Bank & African Union, *ETransform Africa: Agriculture Sector Study- Sector Assessment and Opportunities for ICT*, 4th February 2012.
- The World Bank, *Indigenous Knowledge: Local Pathways to Global Development*, Indigenous Knowledge Notes 30735, Knowledge and Learning Group Africa Region (2004), online: <<http://documents.worldbank.org/curated/en/981551468340249344/pdf/307350ENGLISH0ik0local0pathways.pdf>> .
- The World Bank, “Regional Trade Agreements”, 5 April 2018, online: <<https://www.worldbank.org/en/topic/regional-integration/brief/regional-trade-agreements>>.
- Third World Network, “Africa Group Proposals on TRIPS for WTO Ministerial” (4 October 2001), online: <<http://www.twn.my/title/trips2.htm>>.

- Third World Network, “ARIPO Sells Out African Farmers, Seals Secret Deal on Plant Variety Protection”, Statement Issued by the Alliance for Food Sovereignty in Africa (AFSA), *TWN Info Service on IP Issues*, 10th July 2015.
- Thompson, Carol, “US Trade with Africa: African Growth & Opportunity?” (2004) 101 *Review of African Political Economy*, 457.
- Timmer, Peter, “Food Security, Structural Transformation, Markets and Government Policy” (2017) 4:1 *Asia & the Pacific Policy Studies*, 4.
- Torero, Maximo, “Food Security Brings Economic Growth-Not the Other Way Around”, *IFPRI Blog*, 14th October 2014.
- Udombana, Nsongurua, “Back to Basics: The ACP-EU Cotonou Trade Agreement and Challenges for the African Union” (2004) 40:59 *Texas International Law Journal* 59.
- UK Food Group, “An Analysis of Intellectual Property Rights in EU-ACP Economic Partnership Agreements: Unveiling the Hidden Threats to Securing Food Supplies and Conserving Agricultural Biodiversity”, (2009) *Hidden Threats* Briefing.
- Valdes, Raymundo & Maegan McCann, “Intellectual Property Provisions in Regional Trade Agreements: Revision and Update”, 23 September 2014, *WTO Economic Research and Statistics Division Staff Working Paper* ERSD-2014-14.
- Van Damme, Isabelle, “What Role is there for Regional International Law in the Interpretation of the WTO Agreements?” in Lorand Bartels and Federico Ortino, eds., *Regional Trade Agreements and the WTO Legal System* (Oxford: Oxford University Press 2006).
- Vidal, John, “Real Battle for Seattle”, *The Guardian International Edition*, 5th December 1999.
- Vos, Rob, “Thought for Food: Strengthening Global Governance of Food Security” (2015) *FAO CDP Background Paper* No.29, ST/ESA/2015/CDP/29.
- Vyas, V.S., “Ensuring Food Security: The State, Market and Civil Society” (2000) 35:50 *Economic and Political Weekly* 4402.
- Ward, Alexandar, “The BRICS Wall of Protection: What South Africa’s Patent Protection Policy Means for the Future of Public Health”, *The Yale Global Health Review*, (6 March 2014).
- Ward, Chris “South Africa’s Chicken Industry May Not Survive Beyond 2018”, opinion in *DEVEX* (17 August 2017), online: < <https://www.devex.com/news/opinion-south-africa-s-chicken-industry-may-not-survive-beyond-2018-90825>>.
- Wenar, Leif, “The Analysis of Rights”, in Mathew Kramer et al, eds, *The Legacy of H.L.A. Hart* (Oxford: Oxford University Press, 2008).
- Wiber, Melanie, “Intellectual Property Rights and Food Security: the International Legal Battle Over Patenting Staple Crops” in Otto Hospes & Irene Hadiprayitno, eds, *Governing Food Security: Law, Politics and the Right to Food* (Wageningen, The Netherlands: Wageningen Academic Publishers, 2010) 273.
- Williams, Brock, “African Growth and Opportunity Act (AGOA): Background and Reauthorization”, *Congressional Research Service Report*, R43173, 22 April 2015.

- Winter, Lauren, "Cultivating Farmers' Rights: Reconciling Food Security, Indigenous Agriculture and TRIPS" (2010) 43 *Vand J. Transnat'l L.*, 223.
- Wittman, Hannah, "Food Sovereignty: A New Rights Framework for Food and Nature?" (2011) 2:1 *Environment and Society*, 87.
- World Bank Group & OECD, "IP and Innovation in Agriculture-How is IP Related to Agricultural Innovation?" *The Innovation Policy Platform*, (2013), online: <<https://www.innovationpolicyplatform.org/content/ip-and-innovation-agriculture>> .
- World Grain, "Rice is King in West and Central Africa", Editorial Article, *World Grain.com*, (25 January 2016), online: <http://www.world-grain.com/articles/news_home/Features/2016/01/Rice_is_king_in_west_and_centra.aspx?ID=%7B644CFE73-DA23-4E1B-A810-88E7C2430195%7D&cck=1>.
- World Law Dictionary Project, *Translegal Dictionary* (2019), online: <<https://www.translegal.com/legal-english-dictionary/legal-framework>>.
- Wright, B.D. & P.G. Pardey, "The Evolving Rights to Intellectual Property Protection in the Agricultural Biosciences" (2006) 2:1-2 *International Journal of Technology and Globalisation*, 12.
- Yamin, Farhana, "Intellectual Property Rights, Biotechnology and Food Security" (2003) *IDS Working Paper* 203.
- Yiridoe, Emmanuel & Vincent Anchirinah, "Garden Production Systems and Food Security in Ghana: Characteristics of Traditional Knowledge and Management Systems" (2005) 20:3 *Renewable Agriculture and Food Systems* 168.
- Yu, Peter K., "Five Decades of Intellectual Property and Global Development" (2016) 8:1 *The WIPO Journal: Analysis of Intellectual Property Issues* 1.
- Yu, Peter K., "The Objectives and Principles of the TRIPS Agreement" (2009) 46:4 *Houston Law Review*, 979.
- Zavala, Katherine, "Peru's Potato Park: 'Buen vivir' in Practice", *Thousand Currents*, 24th October 2016. Online at: <<https://thousandcurrents.org/perus-potato-park-buen-vivir-in-practice/>>.
- Zilberman, David *et al*, "Agricultural Biotechnology: Productivity, Biodiversity and Intellectual Property Rights" (2004) 2:2 Article 3 *Journal of Agricultural and Food Industrial Organization*, 10.
- Zilberman, David, "GMOs and Global Food Security" (2014), *Beyond the Science*, 18 December, 2014.
- Zoundjihhekpon, Jeanne, "The Revised Bangui Agreement and Plant Variety Protection in OAPI Countries", in Christophe Bellmann, Graham Dutfield & Ricardo Melendez-Ortiz, *Trading in Knowledge: Development Perspectives on TRIPS, Trade and Sustainability* (New York: Earthscan Publications, 2003) 109-116.

Others: Statements of Regional and International Organizations

- African Group, “Review of the Provisions of Article 27.3(b)”, Communication from Kenya on behalf of the African Group, IP/C/W/163. 8 November 1999.
- African Group, “Taking Forward the Review of Article 27.3(b) of the TRIPS Agreement”, Joint Communication from the African Group, IP/C/W/404, 26 June 2003.
- African Group, “The Relationship between the TRIPS Agreement and the Convention on Biological Diversity”, Communication from Mauritius on behalf of the African Group, IP/C/W/206, 20 September 2000.
- African Ministerial Conference 2015, “Cluster I Report: Science, Technology and Innovation for the Transformation of African Economies”, OMPI/PI/DAK/15/REPORT/CLUSTER/I, 5 November 2015, online:
<http://www.wipo.int/edocs/mdocs/africa/en/ompi_pi_dak_15/ompi_pi_dak_15_report_cluster_i.pdf>.
- African Union, *Decision on the Draft Agreement Establishing the AfCFTA*, Assembly of the Union Tenth Extraordinary Session 21 March 2018 Kigali, Rwanda, (2018) Ext/Assembly/AU/Dec.1(X).
- African Union, *Resolution of the Abuja Food Security Summit*, 4-6 December 2006, Abuja, Nigeria, FS/RES(I).
- Commission on Intellectual Property Rights [CIPR], *Integrating Intellectual Property Rights and Development Policy* (London: CIPR, 2002).
- ECOWAS Commission, Position Paper Towards Local-Level Food Security in West Africa: “Zero Hunger in West Africa” (September 2012).
- ECOWAS Commission, *Regional Agricultural Policy for West Africa: ECOWAP*, CEDAO and ECOWAS document for Paris Conference on the Regional Agricultural Policy for West Africa, 9 December 2008.
- European Commission, “Economic Partnership Agreement with West Africa, Facts and Figures” 29 November 2017, online:
<http://trade.ec.europa.eu/doclib/docs/2014/july/tradoc_152694.pdf>.
- European Commission, “Global Europe: competing in the world,” EC Policy Review, 4 October 2006, online:
<http://ec.europa.eu/trade/issues/sectoral/competitiveness/global_europe_en.htm>.
- European Commission, “Green Paper Promoting a European framework for Corporate Social Responsibility”, DOC/01/9, Brussels, 18 July 2001.
- European Commission, “Regional SIA: West African ACP Countries”, in EC, *Sustainability Impact Assessment of the EU-ACP Economic Partnership Agreements*, Final Report Revised, 30th January 2004, 2007/05: EU-ACP Economic Partnership Agreements.
- European Commission, “Sustainability Impact Assessment of the EU-ACP Economic Partnership Agreements” Position Paper, 16th November 2007.

European Commission, “West Africa: Agro-industry”, in EC, *Sustainability Impact Assessment (SIA) of the EU-ACP Economic Partnership Agreements*, Final Report, July 2005.

European Commission, *WTO Ministerial Declaration on the TRIPS Agreement and Public Health* (Brussels, European Commission, 19 November 2001).

European Commission News, “The Gambia signs the region-to-region Economic Partnership Agreement between West Africa and the EU”, Brussels, 9th August 2018.

European Commission News, “Trade: Mauritania signs the regional Economic Partnership Agreement between West Africa and the EU”, Brussels, 21st September 2018.

European Commission’s Directorate-General for Trade, “The Economic Impact of the West Africa-EU Economic Partnership Agreement”, March 2016.

European Commission’s Directorate-General for Trade, “The Economic Impact of the West African-EU Economic Partnership Agreement” TRALAC, 2 June 2016.

European Parliament Directorate-General for External Policies Department, “The New Alliance for Food Security and Nutrition in Africa”, *European Union Doc EP/EXPO/B/DEVO/2015/01*, November 2015-PE535.010.

NGO/CSO Forum for Food Sovereignty, “Food Sovereignty: A Right for All”, 2002, Rome, Italy, 8-13 June, 2002.

Nyeleni Forum for Food Sovereignty, “2007 Declaration of the Forum for Food Sovereignty”, Selingue, Mali, 23-27 February 2007.

Oxfam, “Unequal Partners: How EU-ACP Economic Partnership Agreements could Harm the Development Prospects of Many of the World’s Poorest Countries” (2006), *Oxfam Briefing Note*.

UN CESCR, *General Comment 12*, The Right to Adequate Food. E/C.12/1999/5 (1999).

UN Committee for Development Policy, *List of Least Developed Countries* (December, 2018).

UN Economic Commission for Africa & Food and Agricultural Organization of the UN, *2018 Africa Regional Overview of Food Security and Nutrition- Addressing the Threat from Climate Variability and Extremes for Food Security and Nutrition* (Accra: FAO & ECA, 2018).

UN Economic Commission for Africa, “The Continental Free Trade Agreement in Africa- A Human Rights Perspective” July 2017, Addis Ababa, (2017-07) *Report*, online: <http://www.fes-globalization.org/geneva/documents/2017/2017_07_CFTA_HRIA_Publication.pdf>.

UN General Assembly, *Declaration on the Right to Development*, UNGAOR 97th Plenary Meeting, UN Doc A/RES/41/128 (1986).

UN General Assembly, *ILC Study Group Report*, UNGAOR, 58th Session, UN Doc A/CN.4/L (2006).

UN Sub-Commission on the Promotion and Protection of Human Rights, *Intellectual Property Rights and Human Rights*, UN Res. 2000/7, UNESCOR, 2000, UN Doc. E/CN.4/Sub.2/RES/S007/7.

UN World Food Program [WFP], “Consolidated Approach Reporting Indicators Food Security (CARI)”, *WFP Technical Guidance Note* (February 2014).

UN, List of Least Developed Countries, General Assembly Resolution A/RES/70/253, adopted on 12th February 2016, online:
 <http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_list.pdf> .

UN, *Our Common Future*, Report of the World Commission on Environment and Development, UN Doc. A/42/427-Annex (1987).

UN, *Political Declaration on HIV and AIDS: intensifying our efforts to eliminate HIV and AIDS*. New York: United Nations General Assembly, Resolution UN A/RES/65/277 (2011).

UN, *Report of the International Law Commission*, UNGAOR, 61st Sess., Supp. No. 10 UN Doc A/61/10 (2006).

UNCTAD, *African Continental Free Trade Area: Developing and Strengthening Regional Value Chains in Agricultural Commodities and Processed Food Products*, UNCTAD/WEB/DITC/2016/4 (2016).

UNCTAD, *African Continental Free Trade Area: Developing and Strengthening Regional Value Chains in Agricultural Commodities and Processed Food Products* (New York and Geneva: UN, 2016).

UNCTAD, *From Regional Economic Communities to a Continental Free Trade Area: Strategic Tools to Assist Negotiators and Agricultural Policy Design in Africa*, UNCTAD Report, UNCTAD/WEB/DITC/2017/1 (2017).

UNCTAD, *Strengthening the Private Sector to Boost Continental Trade and Integration in Africa*, UNCTAD Policy Brief No.33 (2015).

UNCTAD, *The Convention on Biological Diversity and the Nagoya Protocol: Intellectual Property Implications* (New York: United Nations, 2014).

UNCTAD, *The Trade and Development report 2014: Global Governance and Policy Space for Development*, UNCTAD/TDR/2014 (2014).

UNCTAD, *World Investment Report 2015* (New York and Geneva, 2015).

UNCTAD-ICTSD, *Resource Book on TRIPS and Development* (Cambridge: Cambridge University Press, 2005).

UNECA & African Development Bank Group (2007-11), *Empirical analysis of tariff- line level trade, tariff revenue and welfare effects of reciprocity under EPAs with the EU: Evidence from Malawi and Tanzania* (Addis Ababa: UNECA, 2007).

UNECA, *African Continental Free Trade Area: Towards the Finalization of Modalities on Goods-Toolkit* (Addis Ababa: UN-ECA, 2018).

UNECA, African Union & African Development Banks Group, *Assessing Regional Integration in Africa VII* (Addis Ababa: Economic Commission for Africa, 2016).

UNECA, *Assessing Regional Integration in Africa II: Rationalizing Regional Economic Communities* (Addis Ababa, Ethiopia: UN-ECA, 2006).

UNECA, *Assessing Regional Integration in Africa IV: Enhancing Intra-African Trade by the Economic Commission for Africa* (Addis Ababa, Ethiopia: UN-ECA, 2010).

UN-Economic Commission for Africa (UN-ECA), *Assessing Regional Integration in Africa VIII: Bringing the Continental Free Trade Area About* (Addis Ababa, Ethiopia: UN-ECA, 2017).

UNESCO & AU, “Innovation and Technology Transfer for Enhanced Productivity and Competitiveness in Africa” (2014) *Background Paper*, Seventh Joint Annual Meetings of the ECA Conference of African Ministers of Finance, Planning and Economic Development and AU Conference of Ministers of Economy and Finance, Abuja Nigeria, 29th-30th March 2014, E/ECA/CM/47/4, AU/CAMEF/MIN/4(IX).

UNGA-HRC, *Report of the Special Rapporteur on the Right to Food*, Oliver De Schutter, A/HRC/25/57, 24 January 2014.

UNHCR, *Global Strategy for Public Health 2014-2018* (Geneva, Switzerland: UNHCR, 2014).

United Nation’s Economic Commission for Africa (ECA), *The Continental Free Trade Area (CFTA) in Africa: A Human Rights Perspective*, a Joint Report of the African Trade Policy Centre (ATPC) and the Friedrich-Ebert-Stiftung (FES) (2017).

United Nations Conference on Trade and Development (UNCTAD), “Trade Negotiation Issues in the Cotonou Agreement, Agriculture and Economic Partnership Agreements”, UN, New York and Geneva, 2003, UNCTAD/DITC/TNCD/2003/2.

United Nations Development Programme (UNDP), *Regional Integration and Human Development: A Pathway for Africa*, (New York: UNDP, 2011).

United Nations Economic Commission for Africa (UNECA), *African Continental Free Trade Area: Towards the Finalization of Modalities on Goods-Toolkit* (Addis Ababa: UN-ECA, 2018).

UPOV, *Access to Genetic Resources and Benefit Sharing*, Reply of the UPOV to the Notification of June 6, 2003, from the Executive Secretary of the Convention on Biological Diversity (CBD), UPOV Council, 37th ordinary session 23 October (2003).

UPOV, *Examination of the Conformity of the Draft ARIPO Protocol for the Protection of New Varieties of Plants with the 1991 Act of the UPOV Convention*, UPOV Council, 31st Extraordinary Session, Geneva, C(Extr.)/31/2 (2014).

UPOV, *Interrelations with the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)*, UPOV Council, 94th Session, 25 October 2017, CC/94/10 (2017).

USAID, “Agriculture and Food Security”, *West African Regional*, 10 May 2017.

USAID, “Evaluation of Sanitary and Phytosanitary (SPS) Trade Policy Constraints within the Maize and Livestock Value Chains in West Africa: Nigeria, Ghana, Cote D’Ivoire, Burkina Faso and Mali” (2016) *LEO Report 37*, September 2016.

USAID, “West Africa: Land Use and Land Cover Dynamics-Agricultural Expansion across West Africa” (2015).

USAID, *Rwanda Cross-Border Agricultural Trade Analysis*, United States Agency for International Development-Enabling Agricultural Trade (EAT) project, implemented by Fintrac Inc., February 2013.

USAID, The 2010 NGO Sustainability Index for Sub-Saharan Africa, online: https://www.usaid.gov/sites/default/files/documents/1860/2010_NGOSI_Africa.pdf .

USDA Foreign Agricultural Service, “2017 West Africa Rice Annual”, Global Agricultural Information Network (*GAIN*) Report, 4/11/2017, online: https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Grain%20and%20Feed%20Annual_Dakar_Senegal_4-11-2017.pdf.

USDA-FSA, “Grain: World Markets and Trade”, July 2016 Report.

WIPO Secretariat, “Elements of a Sui Generis System for the Protection of Traditional Knowledge”, WIPO/GRTKF/IC/3/8, Geneva, March (2002).

WIPO Standing Committee on the Law of Patents, “Exceptions and Limitations to Patents Rights: Patents and/or Breeder’s Use of Patented Inventions”, 19th August 2014, SCP/21/6.

WIPO Standing Committee on the Law of Patents, “Proposal by the African Group for a WIPO Work Program on Patents and Health”, 24th Session, SCP/24/4, 29th June (2016).

WIPO, “Advice on Flexibilities under the TRIPS Agreement” online: http://www.wipo.int/ip-development/en/legislative_assistance/advice_trips.html.

WIPO, *African proposal for the establishment of a development agenda for WIPO*, WIPO Doc IIM/3/2 Rev, 31 July (2005).

WIPO, *The African Group and Development Agenda Group’s (DAG) Guiding Principles*, WIPO Doc. CDIP/5/9 Rev., Annex, 2., 26 April (2010).

WIPO, *The WIPO Development Agenda*, WO/GA/34/16, October (2007).

WIPO, *Development agenda Group Guiding Principles Paper*, Committee on Development and Intellectual Property, WIPO Doc CDIP/5/9 Rev, 26 April 2010.

WIPO, *Traditional Knowledge and Intellectual Property*, No.1 Background Brief (2015).

WTO Committee on Sanitary and Phytosanitary Measures, “Outlook on ECOWAS Implemented Sanitary and Phytosanitary Activities During the Period of July-October 2017”, Communication from ECOWAS-USAID Senior Sanitary and Phytosanitary Standards Advisor and ECOWAS Head of Livestock Development, 3 October 2017, G/SPS/GEN/1574 (2017).

WTO, Least Developing Countries Proposal to exempt them from having to protect and enforce pharmaceutical patents and clinical data, WTO document IP/C/W/605, 23 February (2015).