How Developing Countries Can Manage Intellectual Property Rights to Maximize Access to Knowledge

Edited by

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THE SOUTH CENTRE

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PREFACE

The decision to publish the South Centre Perspectives Series was a response to increasing pressure in various multilateral forums from intellectual property (IP) owners to increase the control over knowledge in different forums, including in digital format. The South Centre Innovation and Access to Knowledge Programme (IAKP) "Access to Knowledge" project has undertaken research and supported initiatives at the domestic and multilateral levels aiming at promoting access to knowledge as a tool for development. The main project activities have been twofold: (1) policy-oriented research in the areas of IP law, knowledge governance and media convergence, and (2) technical assistance and capacity-building activities provided to developing country representatives to various multilateral institutions, including the World Intellectual Property Organization (WIPO) and the World Trade Organization.

This book addresses the debate on access to knowledge in three parts. Part I describes some of the challenges for access to knowledge. Chapter I, *Intellectual Property, Norms, Common Goods and the Responsibility of Public Authorities* by Xuan Li, discusses national policy-making and international norm-setting in the area of IP. It argues that while public domain is a pool of knowledge freely accessible by everybody in the society, IP can be used to restrict access to knowledge for a given period. The public domain has been shrinking globally due to the continued expansion of protectable subject matter under the IP regime and international IP-norm setting driven by developed countries. This chapter suggests that a key responsibility of public authorities in developing countries is to ensure a proper delineation of the

private and public domains without further eroding the public domain. While developing a sound national IP policy conducive to economic development, it is essential for public authorities to design an international IP strategy which maintains the public domain that is as broad as possible.

Chapter II, *The Threat of Technological Protection Measures to a Development-Oriented Information Society* by Viviana Muñoz Tellez, addresses the challenges for developing countries with respect to the protection of technological measures that can be used by copyright owners to control access to knowledge. It shows that the use of technological measures by copyright holders to protect works in the digital environment, combined with new international legal obligations to protect such measures, poses a threat for developing countries. It suggests that developing countries should use the flexibilities available in order to implement anti-circumvention obligations narrowly, in a way that reduces the threat they pose to access to knowledge.

Intellectual Property, Standards and Anti-Competitive Concerns: Trends, Challenges and Strategic Considerations in Chapter III by Xuan Li demonstrates that the major problem between intellectual property rights (IPRs) and standards is IPR misuse in the standardisation process. Problems arise when IPRs are included in standards and a balance has not been struck between the private interests of IPR owners and integrity of standardisation. This imbalance tends to lead to IPR misuse through various means such as a refusal to license and the demanding of exorbitant royalties disproportional to the intrinsic technical value of the IP. The consequence is that an IPR holder can block the implementation of their IPR that has been recognized as standard, by either refusing to grant a licence or requiring such high royalties as to make it impossible for its dissemination and adoption as a standard. While the challenges are complex, the solutions are not. What is needed is simply a standard for standards.

Part II of the book provides an account of recent developments in multilateral forums. In Chapter IV, *The Proposed WIPO Treaty on the Protection of Broadcasting and Cablecasting Organizations*, Viviana Muñoz Tellez provides a broad overview and analysis of the proposed treaty to assist developing countries in the discussions and related decision-making. Broadcasting has emerged as an industry characterized by private and public monopolies in a context of growing deregulation. Member states must carefully balance granting increased protection to certain segments of the broadcasting media in order to protect their commercial interests and safeguarding the public interest in access to and use of the material that is broadcast. This chapter suggests that the proposed treaty should focus on signal theft, excluding any IP-type rights.

In Chapter V, *Multilateral Efforts to Extend Copyright Limitations and Exceptions*, Viviana Muñoz Tellez explores the past and current discussions at WIPO regarding limitations and exceptions to copyright and related rights. Exceptions and limitations to copyright protection are vital to the proper functioning of the copyright regime. In the absence of exceptions and limitations, right holders may enjoy absolute rights to exclude others from using their works. One important step forward is the ongoing initiative at WIPO to strengthen understanding of the importance of limitations and exceptions for public interest purposes and to explore the possibility of an agreement on certain minimum limitations and exceptions at the international level. A more comprehensive framework for limitations and exceptions at the international level would serve to create greater legal certainty and to facilitate access to information and knowledge in accordance with the national public interest objectives.

Part III of the book seeks to advance the strategic considerations that should be useful to developing countries in addressing the challenges with regard to access to knowledge. Chapter VI, *Open Access Models for Increased Access to*

Education and Research by Viviana Muñoz Tellez, explores how some initiatives for access to digital content may support education and research in developing countries. Open access (OA) initiatives and models are proving to be viable alternatives to traditional proprietary models, which often over-emphasize the need to protect creative and innovative works, rather than to access them in order to encourage learning. OA models are an example of how the interests of IPR holders in controlling their works can be reconciled with the interests of users and society at large in the distribution and dissemination of such works, and how the opportunities that the digital revolution presents for learning and knowledge creation can be harnessed.

In Chapter VII, *A Comprehensive Framework for Copyright Protection and Access to Knowledge: From a Brazilian Perspective and Beyond*, Pedro Paranaguá observes that national copyright regimes are much more focused on the private interests of copyright owners, which are not necessarily the interests of authors, than on including a fair balance of the public interest of access to knowledge. It presents some policy recommendations to developing countries in order to implement copyright flexibilities foreseen or not forbidden by international treaties, for example, minimum term of protection, parallel importation, exceptions to quotation, private copying, visually and hearing impaired, fair-use-like clauses, compulsory licences.

In Chapter VIII, *Towards a Digital Agenda for Developing Countries*, Dalindyebo Shabalala points out that the advent of digital and internet technologies may present an opportunity for developing countries to design for themselves more appropriate and culturally relevant systems for encouraging the production of cultural products, and ensuring access to them and their dissemination. It is advisable that in developing copyright policies for digital and Internet content and technology, developing countries need to go beyond the rhetoric of "stronger, faster, more" IP that predominates in discussions about the creation and dissemination of culture. The opportunity here is to

determine clearly in what way these countries' development interests would be served by particular forms of copyright regimes, so that they can choose to act accordingly, rather than satisfying the needs of developed country content industries or small domestic interest groups.

It is hoped that the analysis, conclusions and recommendations presented in this book will contribute to a better understanding of the challenges to access to knowledge and of how to frame development-oriented policies to address them. The book is intended to reach a broad set of readers: it provides guidelines for developing countries' governments in participating in multilateral and bilateral negotiations as well as to design national IP regimes consistent with those countries' development objectives. It may also be of value to scholars, teachers, and students whose interests cover such areas as law, economics, political economy, diplomacy, international relations and other social science fields.

Some of the research in this book was originally published by the South Centre as individual Policy Briefs, Research Papers, Background Notes or a Focus Piece of the *Intellectual Property Quarterly Update* produced jointly with the Centre for International Environmental Law.

We are grateful to those who have contributed in various ways to the publication of this book. We should like to acknowledge the leadership provided by the Executive Director of the South Centre, and the support and assistance from colleagues at the Secretariat, in particular Viviana Muñoz Tellez, Nirmalya Syam, Caroline Ngome Eneme, Vikas Nath and Artitaya Puasiri, among others. We are especially grateful to Viviana Muñoz Tellez who assisted in editing the draft manuscripts and provided her intellectual input to the book.

We also wish to thank the Open Society Institute Zug Foundation and the Ford Foundation for their generous funding and support which has made this publication possible.

Xuan Li
Carlos Correa

ABBREVIATIONS

ACTA	Anti-Counterfeiting Trade Agreement
CC	Creative Commons
CSS	Content Scramble System
DMCA	Digital Millennium Copyright Act
DRM	Digital Rights Management
FTAs	Free trade agreements
FTC	The US Federal Trade Commission
ICT	information and communications technology
IEEE	Institute of Electrical and Electronics Engineers
ICTSD	International Centre for Trade and Sustainable Development
IP	intellectual property
IPR	intellectual property right
JEDEC	Joint Electron Devices Engineering Council
LDCs	least developed countries

OA	open access
PCDA	Provisional Committee on Proposals Related to the WIPO Development Agenda
RAM	random access memory
SCCR	WIPO Standing Committee on Copyright and Related Rights
SCMS	Serial Copy Management Systems
SDMI	Secure Digital Music Initiative
SECURE	Provisional Standards Employed by Customs for Uniform Rights Enforcement
SSOs	standards-setting organizations
TPMs	technological protection measures
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UNESCO	United Nations Educational, Scientific and Cultural Organization
VITA	VMEbus International Trade Association
WCO	World Customs Organization
WCT	WIPO Copyright Treaty
WIPO	World Intellectual Property Organization
WPPT	WIPO Performances and Phonograms Treaty

PART ONE

NEW CHALLENGES TO ACCESS TO KNOWLEDGE

CHAPTER I

INTELLECTUAL PROPERTY, NORMS, COMMON GOODS AND THE RESPONSIBILITY OF PUBLIC AUTHORITIES

Xuan Li*

I.1 Introduction

According to the theory of economic regulation, governments should step in to regulate markets when markets are unable to regulate themselves. Market failures occur where the price mechanism that regulates supply and demand breaks down, forcing a government to take action. Under-provision of knowledge, given the nature of information, is considered to be a market failure, which requires government intervention to achieve socially optimal welfare maximization. The IP regime, as a policy instrument, was established to correct such market failure. Consequently, knowledge which was considered to be in the public domain became partially shifted to the private sphere. However, institutional failure may also arise when market failure has been corrected in an inefficient manner. The IP regime is no exception. For instance, over-protection of IPRs may lead to a situation where the benefits are biased to right-holders at the expense of consumers. An unbalanced situation is likely to occur between different stakeholders, including producers and consumers. The role of government is to assume its responsibility to ensure a proper delineation of IPRs in the best interests of society. This chapter discusses the role of public authorities in IP regimes in both the national IP policy-making and international

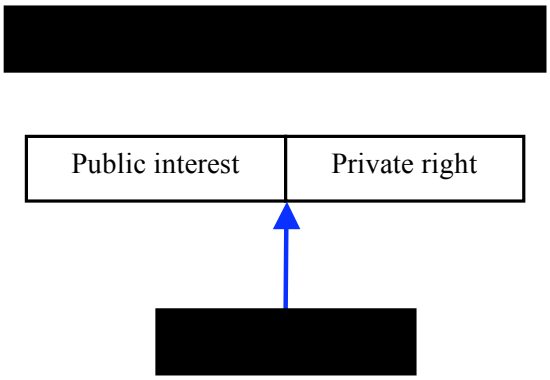
IP norm-setting dimensions. After this introduction, it will discuss the nature of IP regimes in defining the boundary between public domain and private right. Section III will address the trend of IP regimes and the shrinking public domain. In Section IV the responsibilities of public authorities in national and international norm-setting processes will be discussed, and Section V will summarize the conclusions drawn.

I.2 The Nature of IP and Justification of IP Regimes

IP refers to a loose cluster of legal doctrines that regulate the use of different types of intangible knowledge. For instance, patent law protects inventions, copyright law protects "original forms of expression", trademark law protects words and symbols which identify specific goods and services, undisclosed information law protects information that companies have tried to conceal from their competitors, and so on. Unlike tangible property, IPRs are government-granted rights, which are not based on natural right theory and scarcity of resources.

What is the justification for IP? As Arrow (1962) pointed out, innovations are all about the production of information. From an economic perspective, the common nature of these subject matters of IP under protection using different legal doctrines can be defined as *information*. The nature of information and its usefulness is the key criterion for the nation in deciding the necessity for granting the right. Information economics posits that information is a public good which is characterized by non-rivalry and non-excludability. Consequently, an IP protection regime needs to be constructed to facilitate the production of specific kinds of knowledge to mitigate the market failure. Without such a mechanism, knowledge would be under-provided. To rectify this under-provision, and to ensure optimal production of knowledge, there is a need to control the provision of at least some of the social benefits. Granting IPR protection by creating a

mechanism of monopoly aims, though imperfectly, at providing incentives for individuals to invest in the production of knowledge. In short, the granting of IPRs is justified by the need to address market failures (that is, the problem of free riding) and by the objective of stimulating innovation.



IPRs, as government-granted rights, should be granted in conformity with the public interest theory. Characterization of the public interest theory has similarities with the welfare economics rationale for regulation.[1] It explains that regulation seeks the protection and benefit of the public at large. As the implementation of an IP regime may deviate from the ground for creation of the regime, the IP regime should be assessed periodically for adjustment. The challenge for the public authorities is to define the boundary of public and private interest in a cost-effective manner, particularly among the key stakeholders, that is, producers (upstream innovators, downstream innovators) and consumers (Figure 1). In short, an IP

regime is an economic instrument with the aim of achieving a socially optimal level of knowledge provision.

I.3 The Trend of the IP Regime and the Shrinking Public Domain

The public domain refers to the realm of all works or objects of related rights, which can be exploited by everybody without any authorization, for instance because protection is not granted under national or international law, or because of the expiration of the term of protection. It also includes public data and official information produced and voluntarily made available by governments or international organizations.[2] It is the source from which authors, inventors, designers and creators derive the building blocks with which they construct their intellectual edifices.

The public domain is crucial for any follow-on innovation as the engine of innovation is built on the shoulders of those who came before. Without the public domain, each process or part of a new invention would risk infringing a myriad of prior IPRs relating to its subcomponents. However, the public domain has experienced substantial erosion with regard to the aftermath of an IP regime. The shrinkage is evolving with new emerging forms of business models and IP protection. Patents, copyrights and trademarks have been the major pillars of the international regime of IPRs. As technological developments are blurring, however, a one-size-fits-all approach for IPR protection does not work and therefore some hybrid *sui generis* systems are emerging. The elastic concept of IPRs is thus stretched to include other forms of information such as undisclosed information, plant breeders' rights, geographical indications, and rights to the layout designs of integrated circuits. These distinctive forms of protection are referred to as *sui generis* regimes, which have led to the shrinkage of the public domain (Figure 2). For instance, industrial

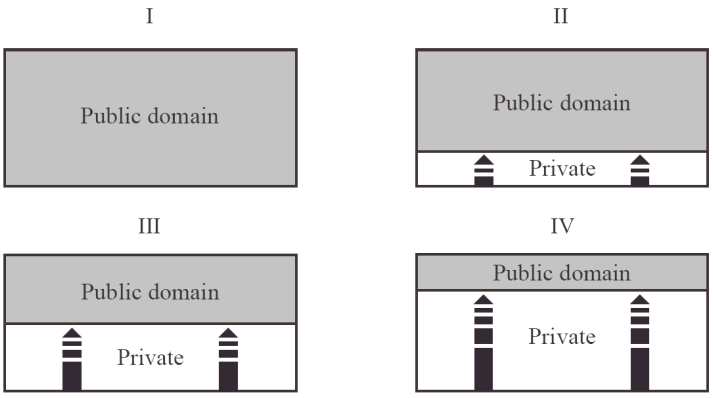
design protection, one of the earlier *sui generis* regimes, concerns the protection of the outer appearance of a product.

A design is an element completely separate from the object it enhances or to which it is applied. Usually, the design is registered, and thereby granted protection, provided it meets a novelty criterion. Under an unregistered *sui generis* design right, protection is conferred automatically (the United Nations Conference on Trade and Development (UNCTAD)-International Centre for Trade and Sustainable Development (ICTSD), 2003). Trade-Related Aspects of Intellectual Property Rights (TRIPS)-plus-plus IP enforcement is another example. Among various initiatives on pushing higher IP enforcement promoted by developed countries at the World Customs Organization (WCO), the World Health Organization, the Universal Postal Union, the Group of 8, and so on, the negotiation on the Provisional Standards Employed by Customs for Uniform Rights Enforcement (SECURE) at the WCO represented one of the most significant attempts to establish TRIPS-plus-plus initiatives on IP enforcement. Compared with the TRIPS agreement, the proposed SECURE standards are IP enforcement border measures which represent a significant departure from TRIPS provisions in terms of subjects, scope and measures of protection, disposal methods and member states' obligations and rights. Enforcement by customs administration under the TRIPS agreement is compulsory only with respect to importation (article 51). However, the scope of SECURE Standard 1 is much broader than the TRIPS agreement, as Standard 1 extends the enforcement from importation to all types of transaction, including but not limited to export, transit, warehouses, transshipment, free zones, duty-free shops, and so on.

Overall, there has been continued expansion of protectable subject matter in nearly all areas of IP, and the public domain has been impacted in various ways. Firstly, the categories of subject matter that are protectable have expanded. Certain subject matters have been reclassified from unprotectable to protectable.

Secondly, the protection standards of protectable subject matter have been lowered. Thirdly, the term of protection has extended. For instance, a subject matter protected under one form of IPR after termination may be protected under another form of protection, or its entry into the public domain may be delayed by extending the term of protection.[3] There is also overlapping protection of the same subject matter by different forms of IP protection, delaying full entrance of that subject matter into the public domain.[4]

Figure 2: The Erosion of the Public Domain after the Introduction of an IP Regime



I.4 Responsibilities of Public Authorities

Public policies should be designed in such a way as to maximize national interests. IP policy is no exception; the principle responsibility of a public authority is to ensure maximization of its country's welfare. To convert this principle into practice, developing countries should, on the one hand, prevent the public domain from further erosion by making a proper delineation of the private and public domains in both national and international IP norm-setting processes; on the other hand, they should develop a comprehensive development strategy that is based on a full understanding of the relationship between economic development and IP both as driving force and constraint.

From the national IP policy-making perspective, one of the recurrent issues is where the appropriate balance should lie in terms of the interests of the rights-holders and those of the public. As IP generates welfare loss with its granted monopoly power, governments need to assess whether their respective IP policies need readjustment, taking into account the fact that upstream and downstream innovators are different stakeholders with different interests. From a development perspective, the IP policies should be assessed in considering four parameters, that is, potential for economic development, local innovation capacity, governance (top-down vs. bottom-up), and the available human capital (specifically economists, lawyers and scientists).

From the international IP norm-setting perspective, IP is a priority item on the negotiations agenda at the multilateral, regional and bilateral levels, but these have been mostly unilaterally set by developed countries. As such, the key issue for developing countries is to keep the policy space as wide as possible. This is particularly important, as these negotiations have a strong impact on the design and implementation of the public policies and strategies of many national governments

regarding the interface of IP and many fields including health, agriculture and the environment.

The strategies of the developed countries in terms of international IP norm-setting are characterized by double standards on international and national issues. Domestically, a balanced and optimal IP strategy is designed in developed countries based on their level of development, including the introduction of a competition approach to prevent the abuse of IPRs and to rectify anticompetitive practices. At the international level, however, these developed countries are pushing hard for TRIPS-plus standards of IP protection and enforcement in various forms. To stretch the IP protection further, developed countries place IP enforcement as a high priority and create pressure on developing countries through multilateral, regional and bilateral negotiations. These initiatives aim at melting down the public domain of developing countries while keeping a balance at domestic level. The common challenge facing policymakers in developing countries, therefore, is to understand the importance of the public domain and, on this basis, how to adapt existing IPR mechanisms to address their development needs and promote local innovation capacity.

I.5 Conclusion

By definition, the public domain is not subject to protection under the law. From an IP law perspective, knowledge is either protected, that is, in the private domain, or unprotected, that is, in the public domain. The public domain has been shrinking globally due to the continued expansion of protectable subject matter under the IP regime and international IP-norm setting driven by developed countries. The key responsibility of the public authorities in developing countries is to ensure a proper delineation of the private and public domains without further eroding the public domain. While developing a sound national IP

policy that is conducive to their economic development, it is essential for public authorities to design an international IP strategy which maintains as broad a public domain as possible.

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Endnotes

1. Richard A. Posner, Theories of Economic Regulation**,** *The Bell Journal of Economics and Management Science*, Vol. 5, No. 2 (Autumn, 1974), pp. 335-358.
2. http://www.unesco.org/bpi/pdf/memobpi08_publicdomain_en.pdf . UNESCO
3. Samuel Oddi, The Tragicomedy of the Public Domain in Intellectual Property Law, 25 *Hastings Communications and Entertainment Law Journal* 1 (2002).
4. Ibid.

CHAPTER II

THE THREAT OF TECHNOLOGICAL PROTECTION MEASURES TO A DEVELOPMENT - ORIENTED INFORMATION SOCIETY*

Viviana Muñoz Tellez**

The new digital environment offers both opportunities and challenges for developing countries. New international legal requirements with respect to the protection of technological measures that can be used by copyright owners to control access and use of their works can hinder the ability of developing countries to promote access to knowledge for development. This policy brief explains the current international legal framework for their protection and national experiences in their implementation. It highlights that developing countries should use the flexibilities available to narrowly implement anti-circumvention obligations in such a way that can reduce the threat they pose on access to knowledge.

II.1 Introduction

In the digital age, developing countries are faced with enormous opportunities and challenges on access to knowledge and information. Digital technology is rapidly expanding the possibilities for communication, processing and dissemination of information at reduced costs. Most notably, the Internet has evolved into a mass medium and global information market available to the public that can reach, connect and empower

populations globally and facilitate collaborative learning, research and innovation.

The essence of the information revolution is encapsulated in the Declaration of Principles of the World Summit on the Information Society:

> "We declare our common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights…"[1]

The main challenge of building the Information Society is to make effective use of available technologies for sustainable development and improvement of livelihoods. The need to bridge the 'digital divide' is one element of such challenge.[2] A second element of the challenge is to develop an enabling institutional and policy framework for the Information Society.

The extent to which knowledge and information is used, accessed, shared and produced is increasingly shaped by IP policy. The ultimate objective of the IP system is to stimulate the diffusion of knowledge and incentivate innovation and creativity. To do so, IP policy must achieve an appropriate balance between incentives for innovation and creativity via the grant of exclusive private rights to authors and creators and the social benefits of widespread access and diffusion of knowledge goods. It also must balance between material subject to protection and the public domain.[3]

One of the challenges for developing countries is thus to establish balanced IP systems that facilitate access to knowledge and new technologies while complying with their international obligations. In this respect, the expansion of IP law to the digital environment is an issue of growing concern and debate. The realm of copyright is expanding mainly in response to the interests of copyright owners. Publishing and other copyright-based industries face increased difficulties in effectively controlling the use of their works in the digital environment given the ease with which these can be reproduced and distributed. Content can be transferred from one device onto another (i.e. music from a CD to a computer), converted to different formats and recorded for viewing or listening at a later time, etc. In response, copyright-based industries have pushed for the development of para-copyright rules to enable them to increase control and exploit further commercial value from the use of their copyrighted works.

Paradoxically, while on the one hand access is greatly facilitated by digital technologies and global networks such as the Internet, digital technologies may also be used to limit and/or block access to works, even when these may not be subject to copyright protection or for uses that are generally permitted under copyright law. Digital technologies also allow copyright owners to monitor and record the use of the works by the consumer, seriously threatening private rights.

The expansion of subject matter, rights and term of protection of copyrighted works combined with the development of para-copyright rules to enforce copyright in the digital environment will likely limit the opportunities for the full development of the Information Society and in particular for developing countries to access knowledge goods.

II.2 Understanding Digital Rights Management

Copyright-based industries are utilizing copy protection technologies as additional tools to control and/or restrict the use of and access to copyrighted content in the digital environment. The technologies utilized to protect copyright online are commonly known as Digital Rights Management (DRM). However, DRM systems in the broadest sense refer to multiple tools for the management of rights in the digital environment, including two core components: 1) defining the usage rules (rights) associated with the content that may be in digital form, and 2) limitations to copying and other usages that are imposed through electronic devices (i.e. via technological protection measures) to enforce the usage rules.

One of the characteristics of DRM systems is that the usage rules for IP-protected works that are downloaded online or on to a receiving device such as a computer by consumers can be set by right-holders (i.e. licensing terms). It is also a core element of DRM that it is right-holders who determine how their rights are enforced, that is, they are free to choose among DRM technologies. Although the technologies are still developing, there are already many DRM technology applications on the market.

DRM systems are not standardized. In addition to creating drawbacks for consumers in terms of access and usage restrictions, the multiplicity of DRM technologies utilized by right holders can render inoperable different DRM products and services in the digital environment. DRM technologies fall into two main categories: access control technologies, such as encryption, where content is locked unless decrypted. Access to the keys (i.e. password) for decryption is made conditional to payment and/or certain terms and conditions of use (i.e. license agreement). Examples include: 1) the Content Scramble System (CSS) that is used to encrypt video content on DVDs, and 2) the

use of watermarks or tattoos to digital content, such as those utilized by the Secure Digital Music Initiative (SDMI) on compressed audio content (MP3s). In order to control the free sharing of MP3 music by consumers, industries use the SDMI standard based on watermarking to control access to content. The watermark can effectively control access where SDMI- compliant playback and/or record devices can read and interpret the watermark.

Technological protection measures (TPMs). TPM technologies control the copying and/or other uses of digital content, such as viewing, printing and altering once users have access to the work. Examples include: 1) Serial Copy Management Systems (SCMS) that use copy control flags that allow digital copies to be made from a master, but not from a copy of that master. SCMS are used, for example, on CDs and computer software. 2) Digital Transmission Copy Protection (CTCP) used to protect content during digital transmission from one consumer device to another.

II.3 The International Legal Framework for Copyright to the Digital Age

In response to the concerns and lobbying of copyright-based industries[4], in the mid 1990s the World Intellectual Property Organization (WIPO) took on the task of adapting copyright law to the digital age. The result of the exercise was the conclusion of two new international copyright treaties in 1996, known as 'The Internet treaties'. The WIPO Copyright Treaty (WCT) and the WIPO Performers and Phonograms Treaty (WPPT) entered into force in 2002. While only around 60 countries have acceded or ratified each treaty, many of these are developing countries.

Any developing country that has ratified the WCT and WPPT is bound to the obligations with respect to DRM/TPMs.

Moreover, several regional and bilateral free trade agreements (FTAs) among developing countries and the US and among developing countries and the European Community (EPAs) are reinforcing these obligations.

Pressure by the EU and US to uphold DRM systems at the global level is also evident in the WIPO discussions on a potential new treaty on the protection of broadcasting organizations. The EU backed by the US proposed that parallel or firmer anti-circumvention provisions of the WCT and WPPT be extended to broadcasting and cablecasting organizations. Such protection would broaden further the spectrum of DRMs and pose additional threats to consumers, researchers and technological innovation.

The WIPO Internet Treaties

The WCT and WPPT created for the first time international legal rules that back the use of technological protection measures (TPMs) by IPR holders. This development stemmed from the position of right holders that neither legal measures nor technology alone could provide a solution to copyright infringement in the global digital environment. DRM technology can be cracked or defeated. Backed by legal measures, including prohibition on circumvention of TPMs and legal remedies, right holders gain greater control over content.

The new system for international copyright protection that emerged from the WCT and WPPT is composed of three main components: i) traditional copyright extended to the digital environment, ii) technological measures to control/restrict access (i.e. TPMs), iii) legal protection against the circumvention of technological measures. Legal measures to protect TPMs against circumvention are mandated in Article 11 of the WCT and similarly in Article 18 of the WPPT.[5] Moreover, Article 12 of the WCT and the parallel Article 19 of the WPPT create obligations for members to ensure legal measures to protect rights

management information used to identify copyrighted works and other subject matter.[6]

While the obligations are significant, they are set out in broad terms which allow certain flexibility for their implementation in the national laws of countries that choose to ratify the treaties. For example, not all TPMs are subject to legal protection against circumvention. For a TPM to be considered for legal protection it must comply with the following conditions: (1) be effective, (2) be used to protect a right of the copyright owner, and (3) restrict acts not authorized by authors or permitted by law. Moreover, there are different approaches as to how these conditions should be interpreted to define what TPMs are covered under the provision.

There are also different interpretations as to what is required to comply with the obligation to provide "adequate legal protection against circumvention" under Article 11 of WCT and Article 18 of WPPT. Members can decide what types of legal anti-circumvention measures are required and under what legislation they should be dealt with (i.e. copyright law, criminal law or competition law).

It is subject to debate whether legal protection must be aimed at targeting the act of circumvention or rather at the preparatory activities for the act of circumvention, such as the production and distribution of circumvention-enabling devices, or whether both are required.[7] In other words, whether the form of legal protection should consist of: i) a prohibition against acts of circumvention (conduct), ii) a prohibition against trade in circumvention devices and/or services, or iii) a prohibition against both types of activities. The general consideration is that compliance with the obligation in the WCT and WPPT does not require prohibition of devices or services that can defeat TPMs.

There are also different approaches on what exceptions can apply to the legal protection against the circumvention of TPMs.

While the WCT and WPPT do not specify possible exceptions and limitations to the rights granted to right holders in the treaties, it is generally understood that at the least these include those widely accepted in traditional copyright law, affected by the application of the three-step test as set out in the Berne Convention. Namely, those confined to 1) certain special cases that 2) do not conflict with a normal exploitation of the work and 3) do not unreasonably prejudice the legitimate interests of the author. Moreover, the WCT and WPPT allow members to devise new exceptions and limitations that are appropriate in the digital network environment.[8]

Implementation WCT and WPPT DRM-related Obligations in National Laws

The different possible approach to the application of the DRM-related obligations in the WCT and WPPT is made evident by divergences among the national legislations implementing the obligations. Such important differences can be seen, for example, in comparing the national legislation of developed countries such as the United States (US), the European Union (EU), Australia and Canada. A survey undertaken by WIPO in 2003 with respect to 22 national laws implementing the TPM anti-circumvention and rights management information provisions also found that there is wide diversity among approaches on these issues.

The US was the first to implement the WCT and WPPT obligations in its 1998 Digital Millennium Copyright Act (DMCA), followed by the EU in its 2001 Copyright Directive. Hence, these are often referenced as model laws for members of the WCT and/or WPPT that are in the process of implementing the provisions or countries preparing to join the treaties. Obligations based on the US DMCA and EU Copyright Directive are also often incorporated in US FTAs and EU EPAs with developing countries.

The US is the worlds' largest producer and exporter of

copyrighted works and therefore securing strong anti-circumvention provisions is central to their trade agenda. However, developing countries should carefully consider whether it is appropriate model their laws in particular with respect the US DMCA, given that: 1) the US DMCA goes far beyond what is requested by the WCT and the WPPT and 2) there is growing evidence that DRM-related laws in the US and EU have not been effective at stopping or curtailing the unauthorized copying and distribution of works online and yet have curtailed consumers' personal and fair use rights, hampered freedom of expression and scientific research, impaired competition, and stifled technological innovation.[9]

The US DMCA contains two prohibitions. One, it prohibits the act of circumventing technological measures used by copyright owners to control access to their works (not to those that prevent copying). Two, it prohibits the manufacturing, sale, distribution, etc. of devices and technology designed to circumvent a technological measure. Any breach of these rules carries significant consequences, as both civil and criminal penalties can apply.

Legal observers have a noted that the protection of technical measures controlling access to works in effect may grant right holders a new right outside of copyright: the right to access. Such a right goes beyond the intended coverage of the WCT and WPPT. It also means that in the US, DRM technologies are protected irrespective of whether the act being prevented would actually infringe copyright in the work or not, given that the requirement is only that the DRM is used to prevent unauthorised access. The definition of an "effective technological measure" as defined in US legislation includes access control measures, breaking the link with traditional copyright, as liability could arise from conduct independent from whether it constitutes or not a copyright infringement.

The US DMCA thus strongly favours the interests of right holders that use DRM to prevent unauthorised access to their works over the public interest to access works.

The DMCA does provide for some limitations and exceptions to the general prohibition on the act of circumvention, including for non-profit libraries, archives and educational institutions, reverse engineering solely to achieve interoperability, encryption research and security testing, and protection of privacy and minors. However, the limitations and exceptions are narrowly tailored and generally may only be applied if the right holder authorises access, given that technical measures cannot distinguish whether the circumventing purpose is lawful or not. Moreover, given that the DMCA bans the tools and technologies to circumvent technical measures, the limitations and exceptions can be rendered meaningless as there can be no means to gain access to a work even for lawful use.

The EU 2001 Copyright Directive also goes beyond the requirements of the WCT and WPPT by prohibiting not only the act of circumvention of technological measures but also the manufacture and trade in devices that may be used to circumvent.[10] However, the person undertaking the act of circumvention must know it is undertaking a circumventing offence. Moreover, while the 2001 EU Copyright Directive requires that EU members must also take appropriate measures to ensure that acts that do not constitute copyright infringement at the national level can be exercised, the ban on circumventing devices again may affect the exercise of legitimate uses by consumers, researchers, librarians and others that fall under limitations and exceptions.

The implementation of WCT and WPPT anti-circumvention provisions according to US and EU standards is a trend being pushed on developing countries via regional and bilateral FTAs and EPAs. The US DMCA protection standards are included, for example, in the FTAs concluded with Jordan,

Singapore, Chine, CAFTA, Morocco and Bahrain. Although some FTAs allow greater flexibility for national implementation than others, none provide an exception to circumvent TPMs for legitimate or non-infringing uses of protected digital works, such as access to works in the public domain or copying for private use.[11] The EU EPAs may require developing countries to comply with the WCT and WPPT obligations.[12]

II.4 Crafting Adequate Policy Responses to Copyright Challenges in the Digital Environment

Right holders have legitimate concerns with respect to the protection of their copyright rights in the digital environment. However, private interest concerns on protection must be balanced with public interest concerns on access. It is particularly important for developing country copyright regimes to reflect this balance to promote access to knowledge goods. Developing countries already face many barriers to access to knowledge, including the digital divide, pervasive poverty and illiteracy and lack of research capabilities.

Moreover, the experience of developed countries with para-copyright DRM systems and legal measures on anti-circumvention shows that these may seriously prevent or restrict access to digital works. Even when limitations and exceptions under national copyright laws allow access for educational purposes, personal use and others, DRM allow private right-holders to prevent their exercise.

By subjecting access to the acquisition of restrictive licenses or contractual terms, the costs of access when authorized by the right holder become too high for developing country consumers to afford, as copyright owners pass on the costs associated with adopting DRM and protection for electronic rights management information to consumers, and foreign

copyright owners will wish to extract all possible revenues from developing country consumer markets. It is also very costly for developing countries to design and develop DRM systems aimed at protecting national copyright industries and to enforce DRM-related obligations. Evidence that developed country DRM systems have retarded creativity and technological innovation and stifled competition should also be a cause of concern for developing country national innovation agendas.

Accordingly, it is recommended that developing countries restrain from joining the WCT and WPPT treaties and avoid similar anti-circumvention provisions under FTAs and EPAs or other international instruments. Developing countries that have acceded or are in the process of acceding to the treaties should implement in their national laws only the minimum required in respect to the WCT and WPPT anti-circumvention provisions.

National measures should precise and limit the scope of protection to extend only to the act of circumvention in relation to certain technological measures and not 'preparatory acts', clarifying that the aim of protection is linked to that of copyright and does not create an exclusive right of access for right-holders. There is no requirement in WCT or WPPT to prohibit 'preparatory acts' to circumvention, such as the manufacture or trade in devices that may allow circumvention. Accordingly, such a prohibition should not be included in developing country national legislation. Moreover, the existence of such devices in the market may be necessary to access or make legitimate use of works according to the limitations and exceptions recognized under national law.

Explicit mention should be made that liability for infringing a technological measure should only arise when the person has knowledge that it is committing such infringement and is doing so intentionally. In determining the scope of legal remedies and sanctions to be accorded, which the WCT and WPPT does not define, the application of criminal law should be

avoided.

It is essential that developing countries make use of the flexibility in the WCT and WPPT to extend limitations and exceptions under national copyright law and to craft new ones considered appropriate for the digital age. A use that falls within limitations and exceptions should not be subject to technological measures. Accordingly, an important exception would be to allow circumvention for legitimate and non-infringing uses of works protected by technological measures.

The WCT and WPPT do not subject the exercise of copyright limitations and exceptions to the authorization of circumvention by the right-holder. New limitations and exceptions for the digital age could include: to permit interoperability among devices and systems, for research purposes related to DRM technology, for educational purposes extending to e-learning, and for non-profit libraries and archives.

Finally, developing countries should avoid accepting anti-circumvention obligations through bilateral FTAs or EPAs or internationally, such as through the proposed treaty on the protection of broadcasting organizations, that extend beyond the scope of WCT and WPPT.

II.5 Conclusion

Developing countries face multiple challenges on access to knowledge and information for their development. One of the challenges is to develop an enabling institutional and policy framework. The development of digital technology and information revolution offer enormous opportunities for the production and access to knowledge goods. Copyright law plays an increasingly important role in providing incentives for the

production and promotion access to works. However, such incentives must be balanced with the public interest in access.

The use of technological measures by copyright right-holders to protect works in the digital environment, combined with new international legal obligations to protect such measures poses a threat for developing countries. The obligations should be rejected, or narrowly crafted in national laws so as to promote access to knowledge. for development.

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Endnotes

1. World Summit on Information Society, Declaration of Principles, Document WSIS-03/GENEVA/DOC/4-E, 12 December 2003, Para 1.
2. The term ‘digital divide’ describes the inequitable access to Information and Communication Technologies (ICT), and in particular access to Internet and its resources among developing and developed countries and within countries. For statistics on the digital divide, see World Society Information Report, 2007, Ch. 2, http://www.itu.int/osg/spu/publications/worldinformationsociety/2007/WISR07-chapter2.pdf.
3. The term "public domain" generally refers to material that is unprotected by IPRs, either as a whole or in a particular

context, and is thus "free" for all to use and build upon. See James Boyle, "The Second Enclosure Movement and the Construct of the Public Domain", 66 Law & Contemp. Probs. 33 (Winter/Spring 2003), p. 33.

4. Pressure for the WCT and WPPT came mainly from the publishing, audiovisual and music industry from the United States and the European Union, where DRM-related legislation first developed.

5. Article 11 of the WCT provides that: *"Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restricts acts, in respect of their works, which are not authorized by the authors concerned or permitted by law."*

6. Article 12 of WCT provides that: *"(1) Contracting Parties shall provide adequate and effective legal remedies against any person knowingly performing any of the following acts knowing, or with respect to civil remedies having reasonable grounds to know, that it will induce, enable, facilitate or conceal an infringement of any right covered by this Treaty or the Berne Convention:(i) to remove or alter any electronic rights management information without authority; (ii) to distribute, import for distribution, broadcast or communicate to the public, without authority, works or copies of works knowing that electronic rights management information has been removed or altered without authority. (2) As used in this Article, "rights management information" means information which identifies the work, the author of the work, the owner of any right in the work, or information about the terms and conditions of use of the work, and any numbers or codes that represent such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public."*

7. See K. J. Koelman, "A Hard Nut To Crack: The Protection of Technological Measures", E.I.P.R. 2000, 22(6), p.272-228.

8. See Agreed Statement on Article 10 of the WCT and Article 16 of the WPPT on limitations and exceptions to rights.

9. Consumer groups and public interest NGOs from the US and EU have been at the forefront of bringing to light public access concerns with respect to the development of national DRM systems and legal measures for their protection and enforcement to implement related obligations in the WCT and WPPT. See for example, EFF, "Unintended Consequences: Seven Years under the US DMCA", April 2006, and "Digital Rights Management: A Failure in the Developed World, A Danger to the Developing World", paper submitted by a group of NGOs to the International Telecommunications Union Working Party 6m Report on Content Protection Technologies, available at www.eff.org.

10. For a detailed analysis of the EU 2001 Information Society Directive in respect to TPMs, see IViR Report, The Recasting of Copyright and Related Rights for the Knowledge Economy, p.165-179.

11. See EFF, Seven Lessons from a Comparison of the Technological Protection Measure Provisions of the FTAA, the DMCA, and recent bilateral Free Trade Agreements, June 2005.

12. See South Centre, Development and Intellectual Property under the EPA Negotiations, Policy Brief No.6, March 2007.

CHAPTER III

INTELLECTUAL PROPERTY, STANDARDS, AND ANTI-COMPETITIVE CONCERNS: TRENDS, CHALLENGES AND STRATEGIC CONSIDERATIONS

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IPRs and standards are diametrically opposed. While IPRs are destined for private and exclusive use, standards are intended for "common use" which should therefore be accessible to the public at reasonably low cost. Problems arise when IPRs are included in standards and a balance has not been struck between the private interests of IPR owners and integrity of standardization. The aim of this chapter is to outline the problems caused by anti-competitive activities in standardization, so that governments in developing countries can become more aware of the problems and then try to develop their own ideas and solutions. The chapter will start with discussion of the types of standardization, highlighting the conflicts and problems that can occur when IP is improperly managed in standards. In Section III, it will analyse the current solutions to these problems. Section IV will review how governments can and should intervene to ensure that standardization is conducted in a way that enables all nations to benefit. Section VI concludes with some summary observations and strategic suggestions.

III.1 Introduction

Standards cover nearly all fields, including pharmaceuticals, food production, the environment, energy, information and

telecommunications. Due to rapid technical change and the highly-profiled IPR protection regime, standards are nowadays complicated with IPRs. Standards are usually known as sets of fairly complex technical documents to which only relevant technicians, product designers, certain industrial regulators and government officials paid attention. Today, however, standards have become much more than just long, complex documents, and they can act as global unifiers that are often used as political, social, economic and trade tools. Standards can have a significant impact on how a country delivers social services to its people and shares information. Standards can also determine how countries can help industries to grow and compete in the global market, and whether their populations will be able to share in and contribute to technological progress. Ideally, standards should serve as a safeguard device for ensuring that technologies can be used by all, seamlessly, inexpensively and without unnecessary limitations.

Standards are a public good and a privilege granted by a government to industry, though government often does not mandate such standards. Standards are frequently created in standard-setting organizations (SSOs). These organizations bring stakeholders together to collaborate on building a standard and making it the basis of products in order to expand the market for everyone. IPRs are another type of privilege granted by governments with the purpose of, among other things, fostering innovation. By guaranteeing inventors ownership of their creations for a specific period of time, governments hope to encourage inventors to utilize their ideas and, in the process, to advance knowledge and innovation.

The major problem is IPR misuse in the standardization process. While private interests of IPR owners are overly protected by IPR laws, there are no suitable policies to ensure the integrity of standardization. This imbalance tends to lead to IPR misuse, through various means such as a refusal to license or demanding exorbitant royalties disproportional to the intrinsic

technical value of the IPR. For instance, to comply with a given standard, a patent user may have to use one or more patented technologies. In such cases, the patent user is required to obtain a licence from the patent-holder and this must be done prior to using the patented technology in order to conform to the requirements of the standard. Patent-holders may agree to grant royalty-free licences, but on rare occasions only. The consequence is that an IPR holder can block the implementation of its IPR that has been recognized as standard either by refusing to grant a licence or by requiring such high royalties as to make impossible the dissemination and adoption of the IP as a standard.

Due to the protection of IPRs under the TRIPS agreement, as well as a lack of international regulation in the standardization system, IPR holders tend to use standards to manipulate the development of the industry by gaining unfair competitive advantage. A few important issues arise relating to exclusionary effects of IPRs in international standards: What if IPR owners misuse their IPRs that have been incorporated into international standards? Should a technology protected by IPRs be incorporated into a technical standard? Should companies adopt a standard which is required to obtain a licence from the IPR/patent holder? If so, under what terms and conditions? Do companies involved in the standard-setting process have a duty to disclose information to the other members of the standard-setting committee about their patents or patent applications? What are the consequences if the patent holder refuses to provide licences for the use of patented technology?

Either IP or standards could encourage innovation under a proper legal framework, but their combination may give rise to an anti-competitive environment. It is observed that when any royalty- bearing IP is included in a standard, the IP owner has the opportunity to exploit the situation through either high royalties or restrictive licensing conditions. Both of these can negatively affect the use of the standard except by those parties who are willing and able to pay the money. In many cases, high royalties

can prevent participation in the market, the development of technology or services for large portions of the population, or even the use of standards-based technology to share information. This impact is particularly severe in developing countries because they often do not have the economic means to meet high royalties or the IP to strike cross-licensing agreements. As a result, the inclusion in standards of IP that is either royalty-bearing or contains overly-restrictive licensing conditions, or both, can preclude developing countries from participating in or benefiting from technological advances.

III.2 How is a Standard Created?

Standards have become a critical mechanism for impacting economic growth, societal benefits and technological advances. This power stems partly from their role as a catalyst for the integration of the global economy. As the world becomes increasingly interconnected, and therefore more dependent on technological advances which facilitate and take advantage of that interconnectivity, standards become more essential. Those countries which either cannot use or cannot participate in standardization will become more isolated. This isolation could mean that their citizens or businesses will be in a disadvantageous position for participating in international economic activity. Without easy access to tools and data that may help them build their local economies, they will have greater difficulty in benefiting from new means of accessing information and education,. Governments will also face more challenges in trying to leverage technological solutions to create and distribute social services. Nor will they be able to provide access to technology in ways that help their local economies to evolve and prosper effectively. In short, they could become more segregated or be marginalized as the world's economy moves towards interdependency.

There are many ways of setting different standards. Nowadays, however, standards are usually created by a single firm or limited group of companies or through a standard-setting organization. De facto standards are generally adopted by the market without having gone through an SSO. They are usually product-based. Companies such as Microsoft (e.g., office suites, Windows, XP, and Internet Explorer), Apple Computers (e.g., Mac, iPod), and Adobe (PDF reader and maker) have been successful in promoting their de facto standards. While de facto standards would seem to provide others with an incentive to develop complementary products and services which, in turn, can spur technological advances and access by all, there is a missing piece of the puzzle. When de facto standards are proprietary, they are often controlled by a single vendor. Without proper surveillance, this can have two detrimental effects on countries. First, competition is significantly stifled. If a technology based on a proprietary standard is widely adopted, it becomes too expensive and complex for users to switch to other technologies. These high switching costs can discourage competition and ensure a company's market dominance for decades. The lack of competition, in turn, can limit technological choices and keep costs high. In addition, the dominant technology vendor has the power to determine who can design technologies that interface with their de facto standard. For example, if a government wanted to build a customized analysis programme for predicting food shortages in future drought years, it would need to work with the proprietary company or companies who produced the government's computing systems in order to perform this operation. What does this mean? It could mean that the government could not design a customized computer programme to access its own data without agreement from the de facto standards holder. That holder can set any terms and conditions it desires, including royalties, restrictive use terms, or even refusal to allow the interface. In an extreme scenario, the de facto standard holder could essentially dictate how a government could use or distribute its data. It could even prevent the government from even accessing that data as the current technology systems

become obsolete and fail to interoperate. It does not take a person of great expertise to realize the serious consequences of such a scenario.

Standards can also be created through SSOs, which include formal "de jure" standards (such as the Institute of Electrical and Electronics Engineers (IEEE), the International Organization for Standardization (ISO), the European Telecommunications Standards Institute (ETSI), the American National Standards Institute (ANSI). These organizations are often government-endorsed and follow a specific set of procedural rules. Standards may also be created though informal organizations such as consortia (e.g., the World Wide Web Consortium (W3C), the Internet Engineering Task Force (IETF), the Organization for the Advancement of Structured Information Standards (OASIS), the Open Mobile Alliance (OMA). Consortiums are often created by a group of organizations that have like-minded goals or want to address specific challenges. For example, some consortiums may be created specifically to address interoperability issues in medical data sharing. Others might be developed to encourage a specific part of the technology industry to cooperate on lower levels of technology so that they can focus on inventions at the higher levels. Standards created through SSOs may also offer interoperability. Like de facto standards, the promise of large market adoption will encourage other technology developers to create complementary products. However, these standards should better enable competing technologies to be developed, which can lower prices while increasing choices. This principle holds true as long as the standards are truly accessible to all stakeholders. Unfortunately, this is not always the case. For the time being, developing countries face many difficulties in this area. It is crucial that their ability to participate in SSOs should be strengthened so that their rights and interests could be better represented in the process of standardization, and the outcome of the work of SSOs should be more development-friendly.

III.3 Conflicts between IP and Standards

IP is a government grant. Governments grant IPRs to encourage innovation and the sharing of that innovation with others. IPRs such as patents and copyrights guarantee inventors ownership for a specific time period. Thus, they provide an incentive to share ideas and the opportunity to leverage those ideas for financial gain and other benefits. Standards, too, are a sort of government grant. In this case, governments give organizations the privilege of working together towards large-scale cooperation to encourage innovation, and competition, in addition to coordination of their interests and positions. Without this government grant, standardization activities might be considered monopolistic and subject to antitrust accusations. Government sanctions protect cooperating companies from this risk and encourage sharing, just as their granting of IPR protects the individual inventor and his ownership rights. It is understandable that some see IP as a protection of private rights, and standards as the promotion of public good, even though both encourage the sharing of inventions.

What happens when the two grants are mixed together? The conflict stems from the merger of these two government grants. In standardization, there are times when corporate entities will encourage the inclusion of their own IP in a developing standard in order to take advantage of the situation for short-term financial gain. Ownership of IP in a standard can have many benefits for the contributing company. First, the company can demand royalties that are often undefined before the standard is adopted. This provides the opportunity to exploit the situation for higher royalties. Second, it can impose other exclusionary conditions which preclude new market entrants. Third, it can gain significant market share simply by being the first to market with a standards implementation (for example, a product or service) or by having knowledge not available to other standards implementers. The competitive advantage for the IP owner is

well-deserved, but the first two benefits can significantly stifle competition and prevent access. Large multinational corporations generally own enough IP to strike cross-licensing deals. Thus, they are sometimes immune to royalties and licensing conditions within a standard. Other companies and governments, however, may not have the economic, technical and legal means to negotiate reasonable licensing conditions.

This situation has effectively prevented entire countries from entering markets or benefiting from standards. They can neither use the standards to build their own technology solutions nor develop alternative products. Since they often have little influence on what makes up the standard, their access to technology – and thus to the world – is restricted by whether or not they can afford to meet the royalties and other licensing terms laid down by a standard. This has an impact on a government's ability to use technology to provide access to knowledge, deliver social services, and essentially bring progress to its society. Thus, when IP is incorporated in standards without appropriate safeguards, it can further isolate those countries from interconnecting with the rest of the world—a situation that can have a negative impact on their social and intellectual growth as well as on their economic prosperity, and one which developing countries should work together to change.

How to change the situation? Needless to say, the conflict caused by the intersection of two government grants should be resolved by government itself. But there are many other valid questions we should put to all the stakeholders: How can the needs of private rights and public good be balanced? How can government enable worldwide interconnectivity while still motivating inventors to share their creations? Are the assumptions that served as the foundation of these grants still valid? For example, is IP still the most effective way to encourage innovation? Or does inclusion of an IP in a standard generate sufficient reward for the inventor through other means? Are standards the best way to encourage cooperation and enable

interconnectivity, or are there more efficient means for meeting these goals? If IP and standards are the prudent means for encouraging innovation and sharing, governments should examine how these two grants interact, and identify potential solutions to the conflict. To answer these questions and develop solutions, we need to examine the current state of IP management in standardization and the popular mechanisms that are prevailing today. Then, it is hoped, we shall be able to come up with some useful ideas for reform.

III.4 Current Practices Governing IP Rights in Standards

To mitigate the exclusionary effects of IPRs in international standards, some SSOs, for example the International Telecommunications Union (ITU), ISO and the International Electrotechnical Commission (IEC), have adopted some guidelines which require their members to disclose patented technology that is necessary for the implementation of a standard before the standardization process has been completed. Such technology should be made publicly available under reasonable and non-discriminatory terms and conditions. However, the problems regarding the misuse of IPRs that have been incorporated into technical standards have not been properly regulated at either international or national levels. No binding international regulation on IP and standards is available during the standardization process. The issues which need to be addressed include: Who defines a 'reasonable' cost? Since such terms are almost always covered by confidentiality clauses in legal contracts, how can anybody know whether they really are non-discriminatory? Who polices the implementation of these terms? Can they change over time and, if so, how? Are these terms explicitly and publicly known before the standard's adoption?

IPRs have become a contentious issue in SSOs. Regardless of the type of SSO, lawsuits and other difficulties arising from the inclusion of IP in standards have forced some of these organizations at least to begin to address this issue. Most have responded by clarifying their IP disclosure policies. Until recently, these policies were generally vague, rarely discussed, and even less frequently enforced. Our voice could lead to a faster pace of more positive development in the practices of these SSOs.

The issue of IP in standards was not very contentious in the past. SSOs were created mostly by developed countries and multinational corporations. Most of them had similar philosophies in business, technology development and international trade. They designed SSO processes and rules to favour their preferred methods of cooperation and negotiation. Even more importantly, they all owned vast quantities of IP. Therefore, they could make cross-licensing agreements which essentially nullified royalties and applied the same conditions to all parties. When all parties in a negotiation own an equal amount of resources, balance and a fair playing field are virtually guaranteed. But this sort of balance was hard to maintain for some obvious reasons.

So challenges to this status quo arose when two conditions appeared. First, other countries began to participate in standardization. Far from experiencing the benefits of standards, they found the SSO processes and IP policies to be great obstacles to both standards creation and their implementation. Even when they could gather the resources to participate in a standard-developing activity, they often could not implement the standard due to expensive and often unpredictable royalties. The challenge was further heightened when the licensing agreements contained other complex terms which countries could not comply with and which they did not have the legal means, nor the bargaining power, to counter. Thus, though new entrants such as developing countries were welcomed into SSOs, it was like

telling infants in kindergarten that they could participate in the Olympics Games as athletes – provided they could qualify themselves. Membership was open but it was almost impossible for developing countries, and many smaller companies, to meet the conditions required to be able to participate in and leverage standardization. These obstacles have persisted despite the fact that, according to the World Bank, developing countries are providing the fastest expanding economies for technological advances and services.[1]

Another set of challenges came from Western companies themselves, who broke the "unwritten code of ethics" for standards setting. These companies stealthily hid their IPR ownership (generally in the form of patents or pending patent applications) while promoting inclusion of that IP in a standard. Once a standard was widely adopted, these IP holders then claimed their rights, usually demanding huge royalties. Injunctions put a stop to manufacturing processes while lawsuits were decided, appealed, and then decided again. This trend, often called "patent holdup", threatened the foundation of standardization which is based on a sense of trust in other members. Patent holdups raised the risk in implementing a standard, since royalty costs could suddenly exceed estimated fees after significant investment in technology development, deployment and sales had been made. This risk is further increased when patent thickets come into play. In this situation, multiple patents within a standard exist, often unknown, until the standard is widely adopted. In such cases, the royalties to implement the standard can easily exceed the price point at which a product based on that standard can be sold. The thicket is not necessarily formed intentionally or with malice, but the results are often disastrous for standards implementers. The victims of such set ups are often manufacturing enterprises in developing countries.

As a result of these challenges, most SSOs are in the process of re-evaluating their IP policies in terms of both

disclosure and licensing rules. To date, most of the de jure organizations still rely on voluntary disclosure of IP and ask that royalties be "reasonable and non-discriminatory". However, these measures cannot solve the huge discrepancies in the ability to participate and leverage standardization between developed countries (such as the United States, the European Union, Japan, Denmark or the Netherlands) and developing countries. Differences in financial resources, the quantity of IP ownership, cultures and means of doing business still serve as obstacles to creating a fair playing field through standardization. Most developed countries still favour more traditional methods of standardization, particularly in regard to licensing. As the largest owners of IP, many prefer to maintain the rights of IP owners to financially exploit that ownership. The disparities between developed and developing countries threaten to undermine the entire standardization system. The value of standardization is as a global unifier. If disagreements continue, the global standardization system could perhaps fracture.

Some SSOs have adopted a variety of mechanisms to help address some of the concerns about IP and standardization. Some governments have endorsed these efforts; others have ignored them, depending on the region or country. Most of these mechanisms involve the disclosure and management of IP within a standard. Preference for a specific mechanism depends on whether the stakeholder is from the North or South, whether it owns significant IP or manufactured products based on others' IP, or whether it is moving from manufacture of IP-based products to creating its own IP, among other factors. To understand where and how governments can address the challenges caused by the intersection of IP and standardization, it is important to have a general understanding of what each of these mechanisms entails. They all involve licensing requirements and sometimes patent disclosure requirements. The common mechanisms are as follows:

- RAND

RAND is a licensing agreement which states that patent holders of IP essential to a standard are required to license that IP to all standards implementers under reasonable and non-discriminatory conditions. The term refers both to the licensing fees and to the terms and conditions. RAND theoretically prevents IP holders from exploiting their ownership for unreasonable financial gain or other benefits (such as market control, competition elimination) while minimising risks for standards implementers.

- RF-RAND
  Royalty Free (RF) and RAND are sometimes combined in SSO patent policies. In this situation, owners of essential IP which is included in a standard agree to license that IP to all standards implementers without charge. The RAND portion of the policy refers to the other terms and conditions of the IP licence.

- RAND and Voluntary Disclosure of Patents
  This mechanism ensures that licences will be available to all standards implementers for fees and terms and conditions that are considered to be RAND. The SSO policy requests that members disclose any known patents or patent-pending applications at some point in the standards creation process.

- RAND and Identification of Patents
  This takes the disclosure obligation a step further by requiring that SSO members, or participants in an SSO working group, identify their patents or pending patents which may be essential to a standard. These patents must be licensed under RAND conditions.

- RAND and Voluntary Ex-Ante

Along with the requirement for RAND licensing, SSO members, or working group participants, are asked to voluntarily reveal their patents or pending patents at a certain point early in the standards development process. Some SSOs ask that IP holders reveal their licensing terms while most request that these owners reveal only their maximum licensing terms. These are usually defined as the highest royalties and strictest terms and conditions that will be applied.

- RAND and Mandatory Ex-Ante
  Under this rule, SSOs actually require rather than request that patent owners reveal their licensing conditions (or at least maximum conditions) at a specific point early in the standards creation process. VMEbus International Trade Association (VITA) was the first SSO to implement this policy and the IEEE has followed suit.

These mechanisms represent various attempts to manage the conflicts caused by the intersection of IP in standardization. Unfortunately, many of these solutions have either not proven effective or have failed. The result is an increasingly vulnerable standardization system that is subject to the type of manipulation and creation of an unlevelled playing field which gives rise to anti-competitive concerns.

III.5 The Challenge of IP in Standards: Anti-Competitive Concerns

Problems with Current Solutions

While specific disclosure guidelines and licensing models can be required or at least requested by an SSO, they cannot be enforced by that organization. In many cases, SSO policies are vague and

thus subject to interpretation. This interpretation is left to each individual member unless it is later challenged in a court of law. Due to recent legal events, many SSOs have attempted to define their IP policies further. ISO, IEC, ITU-T, and ITU-R, for example, have created unified policies which call for disclosure of known patents or pending patent applications and either RAND or RF-RAND licensing.[2] However, most policies are not specific enough either in terms of when disclosures should be made or what is considered "known" to protect an SSO's standardization process from misuse. The lack of precise and clear definition in this exercise reflects the perpetual dilemma faced by many policy makers and academics in the circle.

On the other hand, even if disclosure policies were made more specific, SSOs have no legal power to require their members to meet their obligations. Any challenge at this point must be made through the courts – an arduous and expensive process which discourages all but the wealthiest countries and companies from participating. There have been suggestions by some that enforcement of SSO patent policies could be managed under contract law. However, most SSOs would be reluctant to bring a lawsuit against one of their members. Since members are essentially an SSO's customers, this type of action would most likely dramatically reduce their revenues and membership numbers. Such economic considerations do have an impact on the policy of SSOs.

In addition, most disclosure policies require only the revelation of known patents. In many cases, this applies only to the knowledge of the particular person representing a company or organization in the SSO. Sometimes, the term "known" may apply to the entire company but there is no requirement for a member company to conduct internal patent searches. Indeed, some companies purposely encourage patent ignorance on the part of their employees to avoid having to disclose IP early in the standards development process or, at the very least, to avoid allegations of purposeful concealment.

Even when IP is disclosed in the standards process, the anticipated licensing terms are vague. The majority of SSOs only require RAND and those terms are generally set by the IP owner after a standard has been finalized. To further complicate the situation, the terms are negotiated between the implementers of each standard and the IP owning company and, typically, these terms are not disclosed to the outside world. Thus, there is no way to determine whether the terms were indeed reasonable and non-discriminatory.

Therefore, unless the licensing terms include a royalty-free guarantee, the royalty fees associated with any given standards implementation will be unpredictable. Since IP owners have only agreed that the fees will be reasonable, standards implementers are at their mercy. At this point, there is neither an internationally accepted definition of reasonable fees nor an accepted formula for calculating this sum. Thus, the IP holder can charge whatever royalties it desires as long as it is prepared to defend those fees as reasonable if legally challenged. Second, IP holders outside an SSO are not subject to these terms and so even the vague guidance of "reasonable" is not applicable. Third, IP owners can theoretically participate in a standard-setting process to a point, or at least use their membership in a given SSO to learn more about what IP a standard will contain, and then resign from that SSO. At that point, the SSO's policies may no longer apply, leaving the ex-member free to demand unreasonable and discriminatory licensing if it so desires.

One way around this ambiguity is to require mandatory ex ante. It is quite normal that the IP owner will disclose its most stringent terms and the highest royalty fees that it expects to charge. This enables members of an SSO working group to seek other technological alternatives if the terms are unacceptable. Ex ante disclosures allow "buyers," in this case the standard developers, to make decisions not only on technological value but on price impact. Since pricing is almost always a factor in any other purchasing decision, ex ante makes sense. The pricing,

however, may not be discussed within an SSO. Members must discuss pricing outside the organization. Should the IP owner fail to honour its commitment, the SSO does not have the legal authority to enforce compliance.

While the mechanisms described represent attempts at resolving the challenges of combining IP and standardization, there has been little research or follow up to establish their efficacy. Similarly, research into alternative solutions and approaches to standardization is also lacking. Standardization is a tool for global unification, and IP-encumbered standards can diminish that power, particularly by increasing the risk of anti-competitive behaviour. Without the knowledge and research required to understand this phenomenon, there will be a detrimental impact on the economic and social welfare of countries and regions that cannot participate in or influence the current standardization system. Therefore, more intensive efforts in the study of IP and standardization issues are not only necessary but are also urgently required.

Anti-Competitive Case Studies

Examples of anti-competitive activities can be seen in two standardization cases: Rambus and DVD manufacturing. Both illustrate how high, and sometimes unanticipated, royalties can stifle competition and ensure economic prosperity and market dominance for the IP holders. The negative impact of such cases on the public good could be further explored.

Rambus

In the law cases involving Rambus,[3] there were accusations that Rambus surreptitiously patented IP that it knew would be incorporated into a Joint Electron Devices Engineering Council (JEDEC) standard (SDRAM—a standard for memory interface). It appeared that Rambus participated in the JEDEC working group to develop the standard and, simultaneously, began

expanding its IP holdings by filing patent applications for IP that it expected would be included in the standard. After some four years, Rambus resigned from JEDEC. When the standard started to become widely implemented and the technology industry appeared to be locked in to the standard, Rambus filed patent infringement lawsuits against several manufacturers in hopes of collecting royalties. Since Rambus was no longer a member of JEDEC, it did not comply with JEDEC's policy for RAND licensing.

It appeared that Rambus knowingly acted in violation of JEDEC's patent policy, which required IP disclosure during the standards development process so that alternatives technologies that were not IP-encumbered could be used. If a decision was made to include an IP-encumbered technology, RAND licensing conditions, according to JEDEC policy, should apply. The US Federal Trade Commission (FTC) supported this allegation, ruling that Rambus understood its obligation to disclose but chose not to take this action. Therefore, it ruled that the company had acted deceptively and had also violated antitrust law.[4] However, the Court of Appeals recently overturned this decision,[5] questioning both whether Rambus knowingly violated JEDEC's disclosure rules (though internal Rambus documents have indicated that it did) and disagreeing with the FTC's opinion that Rambus had violated antitrust laws even if it acted deceitfully. It remains to be seen whether the FTC will appeal the decision in the United States.

The recent ruling may set a precedent for future behaviour in standardization. If companies believe that they can avoid disclosure and wait to exploit the situation through patent hold up once a standard is entrenched, there are certainly those that will act in this way. For the standardization system as a whole, trust has been undermined, and trust is an essential element for the cooperative activity critical to making a standard succeed. How can governments, technology manufacturers and consumers base their future investment and access to technology on standards

when there is no guarantee that anti-competitive activities such as this case indicates will not prevail?

DVD Manufacturing

In the South, China suffered economically as a result of high royalties on DVD players. Although it manufactured over 70 per cent of the world's DVD players in 2002,[6] each player commanded US$15-22 in royalties to patent holders which included Sony, Philips and Toshiba. As DVDs moved from being a luxury to being a commodity, the high royalties severely curbed prices and squeezed away many companies' profit margins.[7] The fees were eventually reduced to approximately US$4 per player. The continued subjugation to royalty fees pushed China to develop its own optical standards; but unless these standards are adopted outside the country, China's DVD vendors will not be able to compete internationally though they will surely be able to capitalize on their own domestic market. With the recent resolution of the international optical format war in favour of the Blu-ray Disc (BD), anticipated royalties are once again unknown. The licensing conditions have not yet been disclosed by the consortium, leaving manufacturers guessing as to where their resources should best be invested. If China decides that it must embrace the BD format in order to compete in the international market or even to give its citizens access to information, it will once again be at the mercy of large IP owners who control the patent pool and its royalties.

These two scenarios are representative of how standardization is being exploited and ultimately undermined. The result is financial gain for a few, and serious consequences for many, especially those in the South or at the lower end of society. These consequences derive from the anti-competitive impact that is inadvertently being fostered by standardization.

Anti-Competitive Impact

When anti-competitive behaviour occurs, as in the cases above, technological innovation, affordability and accessibility, as well as trade, will suffer. For example, when a standard is adopted that unknowingly contains IP subject to licensing, the implementers of that standard could be subject to high - and unexpected - royalties. The Rambus case illustrates the impact that such secrecy can have on an industry. If an industry within a country has adopted that standard or the international community demands it, the high royalties could destroy that industry. Similarly, a government which has based part of its technological systems and services on that standard may not be able to afford the royalties. Subsequently, it may lose its investment in that infrastructure or have to discontinue social and economic services which relied on that technology.

Even when royalties are known before a standard is implemented, high royalties or unreasonable licensing conditions can prevail. For instance, many multinational corporations listed in "Fortune 500" have entered the Chinese market. Some of them dominate the related markets by holding patents. If such technologies are incorporated within the technical standards without any limitation, the occurrence of unfair competition will be inevitable.[8] This type of unfair competition caused by licensing conditions within a standard can prevent a country from leveraging that standard. Thus, solutions that are widely adopted around the world or which are simply the most effective, may not be available to that country. The country is, in effect, excluded from technological advances and interconnectivity. If that country is not able to build up its information infrastructure based on standards, it will become more isolated and increasingly unable to interconnect with the rest of the world for trade, services and information exchange.

When standardization falls prey to anti-competitive activities, access to public knowledge is threatened. Public data

may become entrenched in standards-based technology if a government cannot meet licensing conditions. Not only can this hinder the distribution of, and access to, current data, it can create barriers to a government's entire collection of data from the past. Standardization is necessary to allow connection not only with the world, but with past and future technologies. Data that is technology dependent becomes useless without an economical and relatively easy way of importing it and using it in current systems. The licensors of IP within an essential standard have, therefore, tremendous power to exploit the situation for financial or competitive gain.

Finally, high royalties lead to high product prices. In some cases, these royalties can exceed the anticipated price point of a planned product, as in the DVD manufacturing scenario in China described above. While large IP-holding companies can strike cross-licensing deals that eliminate this situation, others, particularly those from developing countries and smaller businesses, are forced to either meet the high royalties or drop out of the market. If they have not begun manufacturing, they have lost an opportunity, perhaps with serious economic consequences. However, if there has already been significant investment in design, manufacturing and distribution, they will lose both an opportunity and their investment. Thus, hidden and high royalties in a standard can eliminate competition and sustain a dominant player's lead in the market through anti-competitive activities. Developing countries tend to be more vulnerable in the face of such anti-competitive activities.

III.6 The Role of Government

The most important question may be what role government should play in resolving anti-competitive standardization issues and protecting standardization as a public good. As technology developer, provider, regulator and consumer, government is the

only entity that crosses most stakeholder boundaries and thus is well-positioned to bring balanced insight and knowledge of domestic and international concerns to the discussion.

As seen in the examples of Rambus and DVD manufacturing, it is often government which must interpret and enforce SSO policies. It must also be able to analyse the evidence and the behaviour of companies in order to determine whether anti-competitive or abusive activities have occurred. Even within a single country or region, the different branches of government, or representatives within a branch, may have difficulty in reaching consensus. Rulings are based on interpretations and often precedents. Thus, as with the Rambus case, it may take years before behaviour in standardization is either endorsed or condemned. This puts the standardization industry in a state of flux as its members await major rulings to help guide future policies and decisions. The governments in developing countries have a long way to go in this area in terms of capacity building and institutional development.

The situation has become more complex in a global context. There is as yet no universally accepted definition of what constitutes anti-competitive or abusive behaviour. So an action condoned in one country may be discouraged in another. Firms are already "forum shopping" for the SSO that best meets their needs in terms of processes and consensus, as well as disclosure and licensing policies. This trend will surely continue as they identify not only the forums, but the countries whose rules are most favourable to their business models. Those that are motivated to exploit the current disruption and incoherence of our standardization system would be likely to take advantage of similar situations in international and national law. Government action is felt to be urgently needed in order to improve the general situation.

Since governments grant the rights to standard and grant protection for IPRs, they have the right to take action to address

anti-competitive effects amongst them. To begin resolving these anti-competitive concerns, a list of questions should be discussed which includes:

1) How can standardization be changed to serve better as a global unifier?
2) When and how should patent disclosure take place?
3) Should SSOs take more responsibility for defining and enforcing their policies?
4) What constitutes a "known" patent or patent application? How far does the responsibility to identify a member's patent holdings extend?
5) Is transparency critical to creating a fair and balanced standardization system? If so, how can that transparency be created and ensured?
6) Are royalties and IP ownership still the most effective way to encourage innovation and reward inventors?
7) Does inclusion of IP in a standard give that IP owner substantial rewards even without royalties?
8) How can licensing models such as RAND be further defined?
9) How can the risk of high royalty fees and unacceptable licensing terms be minimised in standardization?
10) Should compulsory licensing be an option? If so, under what circumstances?
11) How should IPR dispute resolution be managed? Should this management occur at the national or international level?
12) On the international level, which organizations are best positioned to address anti-competitive concerns and IP issues in standardization?

13) How can patent conflicts in standards that arise from outside the SSO be successfully addressed?

Governments will need to reflect these concerns in relevant policies, particularly those relating to IPR, standardization, anti-competitive behaviour and misuse. The difficulty comes in achieving consistency throughout the world. Policies that impact on standardization must be consistent worldwide so that standardization can serve as a global unifier. Otherwise, these policies will be used to fragment the standardization system further. Better international coordination among governments is desirable.

There are many ways of addressing the problems that standardization is now facing. The solutions are not always evident, but the challenges are becoming more so. Standardization is a public good and government can help it fulfil its role as global unifier by giving it the support and the infrastructure to succeed. Governments might consider a type of "carve-out" for standardization in which laws around IPRs and anti-competition are modified. For example, the carve-out might require that any IP included in a standard be offered royalty free for the implementers of that standard. Or, it might describe the maximum restrictions a licence could contain in IP-encumbered standards. This would ensure that all IP owners, regardless of whether or not they were SSO members, could not disrupt or "hold up" standardization efforts. It would also encourage more adoption of standards due to the minimised risk of unpredictable royalties and licensing terms. A carve-out would allow countries to agree in several areas without changing their entire policy and legal infrastructure. There is a focus on standardization as a public good, and dedication to ensuring that it benefits all people worldwide.

Governments have an opportunity to determine what "a standard for standards" would entail. Governments should collaborate harder in order to provide the world with

internationally accepted definitions and a list of requirements that meet modern economic and social needs while ensuring that standards are accessible to all interested stakeholders. These requirements should not be complex, though certainly the process to reach agreement will be lively and full of debate. Government can address these challenges and achieve these goals at a variety of levels, international, regional and domestic.

III.7 Conclusion

The debate surrounding IP and standards seems to be gathering steam. The inclusion of IPRs in standards is creating significant anti-competitive and misuse issues. These issues can prevent countries from reaping the economic and social gains that standardization can deliver. To ensure a more balanced playing field, the rules and policies that impact standardization need to be examined and modified. Standardization can serve as a powerful tool for ensuring fair competition and access to knowledge and technological advances. It is a mechanism of balance for private rights and public good. While the challenges are complex, the solutions are not. *What is needed is simply a standard for standards*.

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Endnotes

1. The World Bank, "Global Economic Prospects 2007: Managing the Next Wave of Globalization". http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/GEPEXT/EXTGEP2007/0,,menuPK:

3016160~pagePK:64167702~piPK:64167676~theSitePK:3016125,00.html; The World Bank, "Growth Prospects Are Strong, but Social, Environmental Pressures from Globalization Need More Attention," Press Release, 13 December 2006. http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21157190~pagePK:64257043~piPK:437376~theSitePK:4607,00.html

2. International Telecommunications Union, "Common Patent Policy for ITU-T/ITU-R/ISO/IEC". http://www.itu.int/ITU-T/dbase/patent/patent-policy.html

3. *In the Matter of Rambus Inc.,* No. 9302 (Complaint). http://www,ftc,gov/os/adjpro/d9302/index.shtm; *Rambus, Inc. v. Infineon Tech AG,* 318 F.3d 1081 (Fed. Cir.), cert. denied, 540 U.S. 874 (2003); *Rambus, Inc. v. Federal Trade Commission,* No. 07-1086, decided April 22, 2008, http://pacer.cadc.uscourts.gov/common/opinions/200804/07-1086-1112217.pdf

4. *In the Matter of Rambus Inc.*

5. *Rambus Inc. v. Federal Trade Commission.*

6. Interfax China News Agency, "AVS in the Picture as Global Standard," 16 May 2008. http://www.interfax.cn/news/2468/

7. "Chinese companies are constrained by hefty DVD royalties, which range from US$15 to $22 on players that today often retail for less than $60." in Deloitte and Touche, "Changing China: Will China's Emerging Technology Standards Reshape Your Industry?" 2004. http://www.deloitte.com/dtt/press_release/0,1014,sid%253D1018%2526cid%253D56070,00.html.

8. He Guo, "Fair Competition Issues in the Standards Setting Process in China", in *The Standards Edge: The Golden Mean,* ed. Sherrie Bolin, 29-32 (Chelsea, MI: Sheridan Books, 2007), 30.

PART TWO

DEVELOPMENTS IN MULTILATERAL FORUMS

CHAPTER IV

THE PROPOSED WIPO TREATY ON THE PROTECTION OF BROADCASTING AND CABLECASTING ORGANIZATIONS*

Viviana Muñoz Tellez**

Discussions for a new treaty to protect broadcasting and cablecasting organizations against signal theft at WIPO are closely linked to the information revolution. Member States must carefully balance between granting increased protection to certain segments of broadcasting media to protect their commercial interests with safeguarding the public interest in access and use of the content that is broadcast. Accordingly, the proposed treaty should narrowly focus on signal theft, excluding any intellectual-property type rights and technical mandates. If rights are included, these must be balanced by a robust regime for limitations and exceptions.

IV.1 Introduction

Broadcasting through radio and television remains today one of the most important mechanisms for communicating knowledge to the public at large in developing countries, particularly in the most remote areas. Nonetheless, the development of digital technologies, leading to a technological convergence between the three pillars in the chain of communication, namely telecommunications, broadcasting and informatics, and interactive developments (multimedia), holds enormous potential for increasing access and wide dissemination of works to

developing countries, delivering information and entertainment quicker and cheaper to all segments of society, and fostering learning in an increasingly interactive environment.

Developing countries therefore need to create an appropriate national and international regulatory framework to promote the production of works, as well as their transmission and diffusion to the benefit of all segments of society. Part of this process involves revising the existing frameworks for the protection and regulation of broadcasting organizations, which play a fundamental role in transmitting information to the public.

Discussions in this regard have been taking place for over eight years at WIPO,[1] narrowly framed as a possible new international treaty in the field of copyright and related rights for the protection of broadcasting and cablecasting organizations. The purpose of the proposed treaty is to give new international protection to traditional broadcasting organizations against the theft of their signals transmitted across national borders. Though protection is currently granted under several international treaties, broadcasters deem it insufficient in light of technological advancements and the new digital environment.[2]

The break down in the WIPO process towards broadcasting and cablecasting treaty in 2007. because of their highly technical nature coupled with great divergences in the treatment of broadcasting organizations among national legal systems. It is also due to growing awareness of the treaty's potential unintended consequences. Consumer groups and other stakeholders have brought to the discussions concerns on the impact on access to information, freedom of expression and cultural diversity, and the stifling of innovation in the rapidly changing technological and commercial media environment.

WIPO Members have the critical challenge of balancing the legitimate interests of the broadcasting industry with public interest and other stakeholder concerns in the new media

environment. Members are yet to reach consensus on even the basic elements of the treaty. At its past September 2006 meeting, the General Assembly, the main decision-making body of WIPO, instructed members to aim to "agree and finalize, on a signal-based approach, the objectives, specific scope and object of protection" of the proposed treaty.[3] Accordingly, the proposed treaty must be framed narrowly to address a signal-theft. To this aim, two special meetings of the Standing Committee on Copyrights and Related Rights (SCCR) were scheduled in 2007, one in January, the other in June. If agreement is reached, a Diplomatic Conference, the final stage in the treaty-making process at the WIPO, will be convened at the end of the year.

The basis for the discussions on the proposed treaty is a consolidated draft document in treaty language that compiles all proposals by member states.[4] Nonetheless, the Chairman of the SCCR prepared an informal draft 'non-paper' as an attempt to bring together the greatly divergent positions of members within a narrow signal-based framework. Members submitted comments on the draft dated 26 March 2007, which was subsequently reviewed by the Chairman.[5]

Though the non-paper will be discussed at the June meeting, it has no formal standing. Members are free to discuss on the basis of the more extensive consolidated draft text, or to make new proposals. This is important in that the Chairman's draft non-paper goes far beyond signal protection. It provides for exclusive rights to broadcasters that would extend to the Internet and obligations on technical protection mandates and enforcement measures, while maintaining a restrictive provision on limitations and exceptions. The potential for harmful consequences from the proposed treaty are further amplified by the removal of articles on access to knowledge and information, competition, and cultural diversity.

This policy brief provides a broad overview and analysis of the proposed treaty to assist developing countries in the

discussions and related decision-making. It is based on a comprehensive in-house research study that found that the proposed treaty may create more costs than benefits in the short and long-term for developing countries.[6]

IV.2 The New Broadcasting Landscape

Broadcasting is a medium of mass communication important for the transmission of information and access to knowledge. However, the traditional 'public good' conception of and values of broadcasting, -that it be provided at zero or low cost to the general public and promote freedom of expression, access to information, pluralism and cultural diversity-, no longer define broadcasting media. Broadcasting has emerged as an industry and profit-maximizing activity, characterised by private and public monopolies and deregulation.

The development of digital technology is further revolutionizing the broadcasting landscape. On the one hand, it creates enormous opportunities for increased flow of information and access to knowledge and dissemination, social interaction and entertainment. With Internet, for example, individuals are no longer passive consumers of broadcasts but may be interactive participants, even in creating content and broadcasting. On the other hand, a fierce battle to control access to content is taking place among traditional media corporations seeking to capitalize on the new developments, maintain local market dominance and expand to foreign markets. Where boundaries between audiences and creators are blurring, traditional broadcasters around the globe are finding it difficult to adjust - faced with increased competition and outmoded business models.

'Traditional' broadcasting media is generally understood as referring to that which delivers transmissions via wireless (i.e. over-the-air and satellite) means that required high financial and

infrastructure investments. It is likewise associated to the traditional concept of public broadcasting to a wide audience and whose business model is largely based on public funding and advertisement. However, in the WIPO discussions cablecasting organisations that deliver transmissions via wire (i.e. cable television and excluding transmissions over computer networks) are being considered in the same form. As opposed to 'new media', that allows for interactive two-way communication with audiences by way of the Internet, traditional broadcasting is limited to one-way communication. However, the distinction will increasingly be blurred as 'traditional' broadcasters and cablecasters move into new media (i.e. simultaneous and/or deferred streaming of their broadcasts/cablecasts through the Internet.

In developing countries, traditional free-to-air television and radio broadcasting remains a central mechanism for public access to information, knowledge and culture, particularly in remote geographical areas and for the poor who cannot afford to pay for access.

The new possibilities for delivery of content across multiple new platforms for broadcasting, including via computer networks and mobile devices, holds great promise for the developing world in bridging the digital and knowledge divide. Therefore, for developing countries important considerations are protecting the legitimate interests of their national broadcasters, while promoting the development of an open new media environment that facilitates access both to national and foreign content.

IV.3 A Development Analysis of the Proposed Treaty

WIPO members have made some headway in implementing the decision of the General Assembly of aiming to "agree and

finalize, on a signal-based approach, the objectives, specific scope and object of protection" of the proposed treaty. There is broad agreement that the objective of the treaty should be to tackle signal theft, and that the object of the protection should be limited to the signal. As such, the scope of protection would not extend to the content transmitted through the signal, which may be subject of copyright or related rights protection. However, some members, particularly the European Community, continue to push for the inclusion of IP-type rights that would extend to the Internet. Coupled with legally enforceable technological protection measures, the new rights would likely restrict access to knowledge, information, freedom of expression and culture, particularly in developing countries.

The Treaty Beneficiaries

Member States of WIPO have agreed that the beneficiaries of the proposed treaty will be traditional broadcasting organisations in the "traditional" sense. This is in tune with the initial purpose of the treaty which was, arguably, to protect free-to-air public service broadcasters.[7] However, the proposed treaty currently covers both 'traditional' broadcasting organisations and cablecasting organisations.[8]

While Members vowed to exclude webcasting and simulcasting from the scope of the proposed treaty, the Chairman's non-paper includes exclusive rights protection for traditional broadcasting organizations and cablecasting organizations for their transmissions and retransmissions over the Internet.

In determining the treaty beneficiaries, the only difference being recognised among broadcasting, cablecasting, and to some extent, webcasting and simulcasting is the technology employed and platform for delivery of transmissions.[9] Public service television and radio broadcasters would be covered in the same form as pay television and channel owners. The differences

between non-commercial, public service, community and commercial broadcasting or broadcasting business models (i.e. whether funded by public moneys, advertisement or subscription-fees) have important developmental implications, and yet they are not part of the proposed treaty discussions. Public service and community broadcasting, as distinct from commercial broadcasting, play a fundamental role in ensuring access to knowledge in developing countries. These differences among broadcasting media should be critical elements in defining the beneficiaries, rationale and extent of protection of the proposed treaty.

Implementing a Signal-based Approach to Protection

The first demandeurs of the proposed WIPO treaty are traditional broadcasting organisations, which perceive deficiencies in the current international legal framework for the protection of broadcasting organisations. Now joined by cablecasting organizations, they want an extension of the set of exclusive rights they are currently granted under the framework of the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations to traditional broadcasting organisations.

In the view of traditional broadcasters, the Rome Convention should be updated because at the time of its conclusion in 1961, it did not account for the technological advancements that now allow for different modes of delivery beyond terrestrial and over-the-air (i.e. cable, satellite, computer networks) and reception by the public beyond television and radio (i.e. recorders, computers, mobile telephones and other devices). Accordingly, they want a new treaty that accords them multiple exclusive rights (i.e. reproduction, fixation, post-fixation rights including simultaneous transmission and deferred retransmission) allowing them to control access and use of their content-carrying signals over any means of delivery, including computer networks. They further seek that the rights be legally

enforced through technological means that would prevent anyone from decrypting and/or circumventing the protection unless authorised by the broadcaster. The TRIPS agreement also provides rights-based protection for traditional broadcasting organisations, though less extensive than that found in the Rome Convention.

Rights-based protection has been awarded to broadcasting organisations in international treaties as beneficiaries of copyright related-rights or neighbouring rights. Copyright is a form of IP protection designed to reward and promote the production of intellectual literary and artistic works. The fundamental role of copyright law is to protect authors and other copyright owners in respect to their works (such as unauthorised copying of their works), as an incentive for intellectual creation, in balance with society's interest in the dissemination of works and access to knowledge.

The granting of copyright-type rights to broadcasters cannot be justified on the same rationale, as they are merely intermediaries in making works available to the public. In this regard, broadcasting organisations were granted related rights protection under the Rome Convention as a reward for their investments in assembling and scheduling the content transmitted through their signals and on the same basis, are now demanding and updated and extension of such rights. However, Members must carefully consider the merits and potential problems derived from this approach.

Copyright law is not meant to reward investments. Moreover, there is lack of evidence suggesting that broadcasting organizations have an economic need for exclusive rights. To date, only 86 countries have ratified the Rome Convention. Among countries that are not part of the convention, including the United States, China and India, the national broadcasting industry has flourished.

The General Assembly at its past September 2006 meeting instructed Members to frame a potential new treaty on a signal-based approach in recognition of the concerns of other stakeholders with respect to a rights-based approach. Moreover, Members have agreed that the objective of the potential new treaty is to address signal theft. In this respect, there is also no evidence suggesting that exclusive rights are necessary or desirable for protection against signal theft. The Brussels Satellite Convention that was concluded in 1974 to address signal-theft concerns in respect to satellite transmissions not covered in the Rome Convention, does not contain any type of IP-type or any other exclusive rights to broadcasting organizations.

In terms of the impact of a potential new treaty providing exclusive rights to broadcasters, the main concern for the public and other stakeholders is that such rights may allow broadcasters to control access and use of not only of their signals, but also the content transmitted through the signal, even when they have no copyright in the content.

Control over content, irrespective of whether it is covered or not by copyright, is one of the objectives that traditional broadcasters seek through the proposed treaty. Copyright owners have the exclusive right to license their works to be broadcast (transmitted) to the public. If the content carried in a broadcast signal is covered by copyright, unless the broadcaster acquires the rights, it cannot be broadcast. Once the broadcaster has acquired the rights in the broadcast, these can form the basis of protection for the content-carrying signal itself. However, where broadcasts do not carry a literary or artistic work or that carry a work partially or not protected by copyright (i.e. works that have fallen in the public domain, Creative Commons licensed works), the broadcaster cannot rely on the licences of copyright owners as a way to protect the content-carrying signal itself. For example, in broadcasting political speeches or live sports events considered to be in the public domain in some national jurisdictions.

Traditional broadcasters want Rome related rights-type protection to be extended to cover all platforms for delivery not previously covered (satellite, cable, computer networks), in addition to new rights (i.e. deferred transmission over the Internet) that would allow them to control access and use of their content-carrying signals, even when the content may not be subject to copyright protection. The extension of copyright-type protection to broadcasters to cover content, even where they are not copyright owners, can seriously restrict access to knowledge by the public.

Traditional broadcasters argue that although such restriction would be automatic when the broadcaster prohibits the use of the signal, for example for retransmission of a live sporting event via cable, access to such content could still be achieved by going directly to the source. However, there is no basis for imposing new restrictions for access to content in the public domain based on the need to protect broadcasters from signal theft. If the proposed treaty were to extend such rights to cover broadcasters' transmissions via computer networks, any individual could be blocked from viewing content transmitted via the Internet even when it is not covered by copyright and would not be able to freely store and redistribute the content.

IV.4 Technological Protection Measures and Enforcement

An additional concern on the impact of the proposed treaty on access to knowledge and other stakeholders is that it may also give broadcasters further protection by providing legal enforceable measures to use technology to control access and use of the content embodied in the signals. Broadcasters already utilize several technical mechanisms to control access by consumers in the receiving devices (i.e. television, radio, and possibly computers and mobile devices), including electronic access controls, set-top boxes and encryption software.

It is possible that the proposed treaty could include obligations for members to provide technological protection measures (TPM) as technical mandates against decryption and other measures, including banning devices that may help circumvent technical mandates. If TPMs were extended to broadcasting organisations and cablecasting organisations as proposed in the two alternatives in the Basic Draft Proposal, it would mean new obligations for WIPO Members, since neither the Rome Convention nor the TRIPS agreement contains such provisions. In addition, technological protection measures are not relevant or necessary to protect signals, the objective of the proposed treaty, and would dangerously extend protection to content.

Broadcasting organisations want obligations with respect to the protection of TPMs and digital rights management (DRM) similar to those that were introduced in the WIPO Copyright Treaty and the WIPO Performers and Phonograms Treaty. The United States Digital Millennium Copyright Act (DMCA) of 1998, as a model for implementing the respective obligations in the two treaties, is highly controversial and deemed as producing negative effects on scientific research, competition and technological innovation, as well as restricting private, non-commercial use of non-copyrighted works.

Many developing countries are still struggling to implement such obligations in their national laws, and the impact of the provisions is still being evaluated. It seems that at the very least, the imposition of a technology mandate regime for broadcasting and cablecasting is premature.

A broadcasting TPM regime could act as an even greater restriction on access to knowledge and stifle technological innovation and constrain competition. No impact assessment has been made of how TPMs would in practice be used by broadcasters or how it may impact other stakeholders and the public interest. At the same time, the Chairman's draft non-paper

includes obligations for the enforcement, when there is no clarity as to what framework is required to support and enforce such obligations.

If rights are to be granted to traditional broadcasters and cablecasters in the proposed treaty, contrary to the signal-based approach instructed by the General Assembly, these should be in a manner that does not restrict access to works in the public domain and the copyright owner's ability to allow use in relation to the underlying content that forms part of a broadcast.

IV.5 Limitations and Exceptions

Limitations and exceptions to the exclusive rights that may be provided to broadcasters and cablecasters are a critical element in balancing the protection that may be granted in the treaty for broadcasting organisations with the interests of other stakeholders and the broader public interest.

The establishment of limitations and exceptions may allow governments to ensure public use of information and access to knowledge, in particular, for those who do not have economic resources to pay for access. However, they are non-voluntary, any country may choose to implement or not implement them in their national jurisdictions.

It would be in the interest of developing countries that the proposed treaty incorporates a non-exhaustive list of specific limitations and exceptions that allow them flexibility to craft relevant national policies to protect the public interest and counter the potential harmful impacts of the proposed treaty.

IV.6 Conclusion

The demands of traditional broadcasters and cablecasters for increased international protection against signal theft are legitimate. However, there is no evidence to suggest that a treaty providing broad property-type rights and mandating technological protection measures may be an adequate and effective mechanism to tackle signal theft. The proposed treaty must be framed in such a way as to properly balance the legitimate interest and need of broadcasting organisations and the public interest in broadcasting and other stakeholders' legitimate interests. Accordingly, the proposed treaty should exclude from its scope any reference to the Internet and establish a robust system of limitations and exceptions that would safeguard access to knowledge for developing countries.

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Endnotes

1. To a lesser extent, it has also been discussed at the UNESCO, the United Nations body responsible for promoting education, science and culture through the dissemination of information and knowledge. See e.g. UNESCO Decision 171 EX/
2. Namely, the International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (Rome Convention, 1961), the Convention Relating to the Distribution of Programme-carrying Signals Transmitted by Satellite (the Satellite Convention, Brussels, 1974), and the Agreement on Trade Related Aspects of Intellectual Property Rights (The TRIPS Agreement, 1994).

3. For the full text of the decision, see WIPO document WO/GA/33/10 Prov. Pg.38.
4. See WIPO document SCCR/15/2.
5. See "Non-paper on the WIPO Treaty on the Protection of Broadcasting Organizations", dated April 20, 2007. The document is available at http://www.wipo.int/meetings/en/details.jsp?meeting_id=12744 (last accessed May 16, 2007). Country comments to the first draft non-paper are available at http://www.wipo.int/copyright/en/sccr_s1.
6. See Viviana Munoz Tellez & Andrew Chege Waitara, "A Development Analysis of the Proposed WIPO Treaty on the Protection of Broadcasting and Cablecasting Organizations", Research Papers 9, South Centre, January 2007. Available at http://www.southcentre.org.
7. The initial demand for the proposed WIPO treaty came from European traditional broadcasting organizations. See WIPO document SCCR/2/6, "WIPO Treaty for the Protection of the Rights of Broadcasting Organizations".
8. Some countries however, are not yet convinced that cablecasting organizations to be included or be treated in the same form as traditional broadcasting organizations in the proposed treaty. See for example, comments submitted by Indonesia and Brazil on the Chairman's draft non-paper of 1 March 2007.
9. The specific elements that would define broadcasting and cablecasting organizations are still under debate. While the Chairman's non-paper defines that they be a 'legal entity' that 'takes the initiative' and 'makes arrangements' for the 'transmission' of a broadcast/cablecast for the reception of the public, the Revised Draft Basic Proposal (SCCR/15/2) further adds that these must also have responsibility for the assembly and scheduling of the content of the transmission.

CHAPTER V

MULTILATERAL EFFORTS TO EXTEND COPYRIGHT LIMITATIONS AND EXCEPTIONS

Viviana Muñoz Tellez*

Users of copyright works, – including educators, librarians, researchers, people with disabilities and regular consumers – are increasingly making vocal their concerns that national and international copyright laws should be adjusted to clarify the uncertainty regarding limitations and exceptions. One important step forward is the ongoing initiative at WIPO to strengthen understanding at the international level of the importance of limitations and exceptions for public interest purposes and to explore the possibility of an agreement on certain minimum limitations and exceptions at the international level. This chapter briefly explores the historical and current discussions at WIPO regarding limitations and exceptions to copyright and related rights.

V.1 Introduction

Copyright law has evolved over time to tilt the balance in favour of protection of the rights of creators with respect to their works, and against the protection of subsequent innovation and the dissemination of information. International copyright agreements, from the 1886 Berne Union for the Protection of Literary and Artistic Property (Berne Convention) to the 1995 TRIPS

agreement, the 1996 WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT), have progressively made copyright protection stronger and stronger across international borders. Compared to the bundle of minimum standards established to protect the interests of right holders, the legal standing of exceptions and limitations to copyright to protect the public interest in access to information and knowledge is much weaker.

Exceptions and limitations to copyright protection are vital to the proper functioning of the copyright regime. In the absence of exceptions and limitations, right holders would enjoy absolute rights to exclude others from using their works. Contrary to the objective of copyright, unlimited exclusive rights would discourage creativity and innovation and decrease overall welfare.

All international copyright agreements recognize certain exceptions and limitations to copyright. However, unlike copyright protection, exceptions and limitations are optional. This leaves room for member states to determine what is the adequate balance between protection and access, and accordingly to tailor their domestic copyright regimes. The downside of this flexibility, however, is that there is no international consensus on the important questions of which limitations and exceptions apply, and to what extent and when. The diverse and often excessively narrow interpretations in national copyright law of the Three-Step-Test that are found in the Berne Convention, WCT, WPPT and the TRIPS agreement tend effectively to reduce the exercise of important limitations and exceptions. The problem is ever more complex in the digital age. The ease with which works can be both accessed and copied is fuelling an intense debate on the scope of copyright protection to protect works online, particularly through the use of technological measures, and the extent to which limitations and exceptions can apply and new ones be formulated for the network digital environment.

V.2 Discussions at WIPO on Limitations and Exceptions to Copyright

The activities of WIPO in the field of copyright and related rights include administering international treaties, discussion and negotiation of new treaties, and technical assistance provided to its member states. WIPO administers most international agreements that regulate copyright law and related agreements, including the 1886 Berne Convention and what are known as the 1996 WIPO "Internet treaties" - the WCT and the WPPT.[1] The progressive development of international copyright and related rights law takes place in the WIPO Standing Committee on Copyright and Related Rights (SCCR), formally established in 1998. The WIPO General Assembly takes the final decision as to whether discussions in the SCCR move towards treaty-making. Although the SCCR is composed of representatives from all WIPO members, until recently most items on the Committee's agenda were of limited interest to developing countries.

While the issue of limitations and exceptions to copyright and related rights is not new in the SCCR agenda, the committee has yet to agree on a clear work plan in this area. The progress in the SCCR on limitations and exceptions is summarized in the table below.

The main item that the SCCR has dealt with since 1998 is the protection of databases, an issue which is no longer on the permanent agenda of the SCCR, and the protection of broadcasting organizations (see article V). In May 2002, members of the SCCR requested that new issues be considered by the Committee.[2] One of the issues recommended for further study was fair use and exceptions in copyright and related rights. Three different contexts were suggested for the SCCR study into limitations and exceptions:

1) The implementation of the provisions dealing with technological measures in relation to the WCT and WPPT treaties
2) Access to protected material (digital and other) by disabled persons including the visually-impaired
3) Access to protected material (digital and other) by libraries, as users and custodians of culture, heritage and information, and schools.

The document prepared subsequently by the WIPO Secretariat on the list of the new issues proposed for future review and action by the SCCR included only the first issue relating to limitations and exceptions to copyright in the digital environment, in the context of the WPT and the WPPT.[3] Yet in the discussions under the item "Other issues" on the agenda at the SCCR session in November 2002, members were in general agreement that the SCCR should study the issue of limitations and exceptions in the three contexts referred to above.[4] Countries supporting these discussions included Singapore, the European Union, Canada and Australia.

For the ninth SCCR session in June 2003, WIPO commissioned a study on copyright limitations and exceptions in the digital environment.[5] For the same session the WIPO Secretariat also produced a survey on the implementation of the provisions of the WIPO WCT and WPPT treaties, which included a section surveying the provisions on related limitations and exceptions contained in member states' national laws.[6] These studies were not discussed during the ninth SCCR session, but were kept on the future SCCR agenda as an item under "Other issues for review" on which the Secretariat would report on the progress of work done. During the tenth session of the SCCR, though the discussion on limitations and exceptions was limited and resulted in no substantive outcome, a group of developing countries proposed that WIPO should formulate model provisions regarding limitations and exceptions and their interaction with

technological measures of protection, and highlighted the need to deepen the analysis of the application of such measures and the cases of authorized circumvention.[7] Canada also enquired into the work of WIPO relating to access to protected material by the visually impaired.

In the eleventh session of the SCCR in June 2004, no specific discussion took place on the issue, although there was an important related debate in the context of provisions on[?] limitations and exceptions to be included in the proposed treaty on the protection of broadcasting and cablecasting organizations.

Table 1
Summary of WIPO-related Work on Limitations and Exceptions (L&Es)

Date	Doc. No	SCCR Session	Requested WIPO Study	Author	Outcome
May 2002	SCCR/7 /10 Paras 142-146c	7	Informal request for work on L&Es	Various member states	WIPO to make document listing proposals for new issues in SCCR agenda
Nov 2002	SCCR/8 /2	8	L&Es in digital environment included in the list of "possible subjects for future review" by the SCCR	WIPO	No formal decision General support for work on L&Es in three areas: techno-logical measures of

					protection, disabled persons and libraries
June 2003	SCCR/9 /7	9	Study on L&Es in the digital environment	Sam Ricketson	No specific discussion on the study
June 2003	SCCR/9 /6	9	Survey on Implementatio n Provisions of the WCT and the WPPT	WIPO	No specific discussion on the survey
Jan 2004	SCCR/1 0/5 Para 64	10	Informal request for formulation of model provisions/ guidelines on L&Es relating to technological measures	Costa Rica	No decision
Nov 2004	SCCR/1 2/3	12	Proposal to make L&Es an item on the SCCR Agenda	Chile	Made temporary agenda item for the 12th session
Nov 2005	SCCR/1 3/5	13	Proposal for work plan for the SCCR on L&Es	Chile	No specific discussion on the proposal, no decision
May 2006	SCCR/1 4/5	14	Study on Automated Rights Management Systems and L&Es	Nick Garnett	No specific discussion on the study

Mar. 2008		16	Proposal tabled during the SCCR elaborating on a work plan for the SCCR on L&Es, as an element of the future work plan of the SCCR	Brazil Chile Nicaragua Uruguay	No decision Requests for more time to analyse the proposal Broad support but some opposition from member states Discussion on work plan on L&E deferred to next SCCR
Mar. 2008		16	Conclusions by the Chair summarise decision on L&Es	SCCR Chair	WIPO to undertake study on L&Es for educational activities WIPO to organize an informative session on existing and forthcoming studies
Nov 2008	SCCR/17/2	17	Study on Copyright Limitations and Exceptions	Kenneth Crews	Distribution

			for Libraries and Archives		
Nov 2008	SCCR/17/INF/3	17	Informative Sessions on Limitations and Exceptions and on Audiovisual Performances	Authors of WIPO studies	Presentation and discussion

Exceptions and Limitations Formally on the SCCR Agenda

The first formal request to place the issue of exceptions and limitations to copyright and related rights for the purposes of education, libraries and disabled persons as a separate agenda item of the SCCR was made by Chile in November 2004.[8] However, the issue was formally included in the SCCR agenda only four years later, in March 2008. In the previous four years, limited discussions had ensued on the issue under the agenda item "Other issues for review". For the thirteenth SCCR session in November 2005, limitations and exceptions was exceptionally made a stand-alone agenda item, which allowed for more focused and extensive deliberations by the committee. However, it would be over two years before the SCCR took up the issue again in March 2008.

For the thirteenth SCCR session, Chile submitted a detailed proposal for the SCCR to work on the issue of limitations and exceptions in three areas. These can be summarised as follows:[9]

1) Identification of models and practices concerning exceptions and limitations, based on the national IP systems of member states

2) Analysis of exceptions and limitations needed to promote creation and innovation and the dissemination of development stemming there from

3) Establishment of an agreement on minimum international exceptions and limitations for purposes of public interest; especially, to give access to the most vulnerable or socially prioritized sectors.

The thirteenth SCCR did not consider in detail the proposal from Chile, partly due to limited time and other agenda items. There was also no decision as to how the SCCR should move forward on the issue. However, there was significant support from SCCR member states for the committee to undertake further work on: (1) how limitations and exceptions were applicable and could be used and introduced in the digital environment, (2) monitoring how [?] the national laws of member states are introducing limitations and exceptions in the digital environment, with the possibility of undertaking a survey on the application and use at the national level of limitations and exceptions for the benefit of education, handicapped people, libraries and archives, as well as a survey of best practices and applicable legislation, (3) the special needs of least developed countries (LDCs), and (4) cross-border problems of limitations and exceptions, including with regard to distance education.[10]

Two and a half years after the thirteenth SCCR session, following the failed efforts in two special sessions of the SCCR to reach agreement on a proposed broadcasting treaty, the issue of limitations and exceptions would find its way back to the SCCR agenda. During this interim period, two studies were produced by WIPO on limitations and exceptions, one in relation to automated rights management systems,[11] the other on limitations and exceptions for the visually impared.[12]

The sixteenth session of the SCCR, from 10-12 March 2008, was the first meeting of the committee formally to include limitations and exceptions as an item of the agenda. During the

session, a group of developing countries – Brazil, Chile, Nicaragua and Uruguay – submitted a proposal for a work plan for the SCCR on the issue.[13] The proposal explained that the objective of the work plan would be to achieve a consensus on minimum mandatory exceptions and limitations, particularly with regard to educational activities, people with disabilities, libraries and archives, as well as exceptions that foster technological innovation. The proposal considered that the proposed work plan would strengthen the legitimacy of the current copyright system and facilitate its effective enforcement, while at the same time promoting creation and innovation, cultural exchange and technology transfer.

The proposal requested that the SCCR begin work on the three new areas that were formally proposed by Chile in November 2005, which are summarized above. The proposal also suggested that the work plan for the SCCR on limitations and exceptions be undertaken in five distinct phases, each phase to be completed in the following order:

1) Undertake specific research and exchange information on the availability, scope and nature of exceptions and limitations currently at the international level, as well as on the norms included in international treaties or conventions regulating exceptions and limitations;

2) Undertake specific research and exchange information on the availability, scope and nature of exceptions and limitations currently present in Member States' national systems in the areas to be selected, as well as their? interaction with contractual practices (licensing) and DRM;

3) Discuss and evaluate the justifications and implications for exceptions and limitations within the areas prioritized by the Member States;

4) Based on the material collected in the first three phases, select and delimit those exceptions that should form part of a prescriptive minimum global framework of exceptions, and also identify models for other exceptions that should be considered best practices;,

5) Adopt a formal recognition of, and commitment to, creating mandatory minimum exceptions and limitations through means it deems appropriate. (It is suggested in the proposal that this could take the form of a "recommendation for action" to be adopted by the WIPO General Assembly.)

In order to advance phases 1 and 2, the proposal requested the following:

1) The SCCR to hold, before the next SCCR meeting in 3-7 November 2008, an Information Meeting to present all WIPO commissioned studies on the issue, alongside other studies on the subject that members decide to include;

2) An additional WIPO study on exceptions an limitations for educational purposes;

3) The WIPO to hold an Open Forum – participation open to all stakeholders – on the issue of technology and exceptions and limitations to copyright, to analyse the implications of such exceptions and limitations for the development of the technology sector and their interaction with rights management information systems.

While there was significant support for work on limitations and exceptions in the SCCR and for the proposal, with some countries suggesting that the future work of the SCCR should as a priority focus on limitations and exceptions, there was no final decision on the establishment of a work plan in the area. The

committee decided to retain the issue as an agenda item at the next session of the SCCR scheduled for 3-7 November 2008, in which it would consider a more detailed work plan on limitations and exceptions, including activities such as organizing seminars at regional and national level. This outcome can be partly attributed to the fact that the SCCR has not decided on its overall future work plan.

While there is overall support for a line of work in the SCCR on limitations and exceptions in its work plan, some member states want to continue to prioritize work on areas that have long been on the SCCR agenda, namely the protection of audiovisual performances and protection for broadcasting organizations against signal theft, and there are also other proposals for new agenda items. The sixteenth SCCR did, however, make some progress in terms of advancing certain activities on limitations and exceptions, in line with those requested in the four-country proposal. The sixteenth session of the SCCR requested the Secretariat to (1) make, in addition to the existing study reports, a study on exceptions and limitations for the benefit of educational activities, including distance education and its trans-border aspect. (2) Organize, in conjunction with the next session of the SCCR (planned for November 2008) an informative session on existing and forthcoming studies.

V.3 Evaluating the Need for Minimum International Exceptions and Limitations

The increasing attention being given at WIPO to the subject reflects growing awareness of and concern about the need to establish a balanced practice on limitations and exceptions within national copyright laws and to achieve a common understanding at the international level of their implementation. This is necessary to promote a careful balance between the interests of right holders and users, particularly in the digital environment. As

new challenges arise which are common to all countries, multilateral forums with relevant competence in international copyright law and the promotion of culture and the arts are ideal institutions in which to hold discussions with the aim of reaching common understanding. In addition to those at WIPO, discussions at the multilateral level on limitations and exceptions to copyright are also taking place at the United Nations Educational, Scientific and Cultural Organization (UNESCO).[14]

As noted before, the main concerns driving the trend towards increased attention to minimum limitations and exceptions to copyright is twofold. One is the uncertainty regarding the scope of copyright protection in the digital environment, including the use of technological measures on the one hand, and the implementation of limitations and exceptions on the other. The other is the growing body of evidence pointing to a lack of important limitations and exceptions in national copyright laws such as those to ensure access to works for the visually impaired and other disabled persons, and to foster education and research, including the ability of libraries to digitize works. The vast discrepancy among national copyright laws in the provision and implementation of limitations and exceptions is creating many difficulties for cross-border trade in copyrighted works, specially in the digital environment. As a response to these challenges, minimum exceptions and limitations at the international level are being proposed. However, another view is that these challenges can be addressed without creating minimum mandatory limitations and exceptions at the international level which may limit the flexibility of countries to formulate such limitations and exceptions at the national level.

As described in the previous section, current discussions on what action should be undertaken at the multilateral level on exceptions and limitations to copyright, including the question of minimum mandatory limitations and exceptions, are still at a very early phase. However, there are already a number of studies which provide a sound basis for evaluation. These include the

studies commissioned by WIPO and UNESCO, studies by Ruth Okediji on limitations and exceptions and public interest considerations for developing countries,[15] and a comprehensive study published by the Institute for Information Law of the University of Amsterdam and the Law School of the University of Minnesota.[16] Other important related initiatives include the recent "Declaration on a Balanced Interpretation of the Three Step Test in Copyright Law", by a number of European academics, researchers and lawyers.[17]

The Process for Future Work on Limitations and Exceptions at WIPO

The three-stage work plan for the SCCR on limitations and exceptions to copyright proposed by Brazil, Chile, Nicaragua and Uruguay is in line with the WIPO work method. Member states would first decide what areas would be prioritized in the subject (for example, disabled persons, education), following an assessment of what is the current state of the art, through research (studies) and an exchange of information to review current limitations and exceptions at the international and national level. Once it becomes clear which are the exceptions and limitations that need to be in place, member states would evaluate what action should be undertaken (for instance, whether there is a need to establish a minimum global framework of exceptions, or whether to devise "best practice" models for other exceptions). If member states are in agreement, based on the evidence and sufficient open consultation with stakeholders, they would move forward towards an agreement on minimum international exceptions and limitations for purposes of public interest, especially to give access to the most vulnerable or socially prioritized sectors.

The current discussions on limitations and exceptions to copyright in the SCCR partly correspond to the process envisaged in the proposal by the group of four countries. This multi-stage process can also be considered as reflecting the conceptual basis,

spirit and outcome of the WIPO Development Agenda. The WIPO Development Agenda, composed of 45 decisions, was established by WIPO member states in September 2007. One important agreement reached by member states was that WIPO should conduct informal, open and balanced consultations, as appropriate, prior to any new norm-setting activities, through a member-driven process, promoting the participation of experts from member states, particularly developing countries and LDCs. This agreement responded to the controversy surrounding various processes in which WIPO had moved forward towards norm-setting activities without having previously undertaken sufficient background research and consultation, particularly with regard to the developmental implications of such activities. This was also the case with the proposed Broadcasting Treaty and the proposed Substantive Patent Law Treaty.

V.4 Conclusion

Limitations and exceptions to copyright protection are a fundamental tool in ensuring an appropriate balance between protection in the interest of right holders and access for the benefit of the public interest. The digital environment poses new challenges for the design and implementation of limitations and exceptions, particularly in lieu[view?] of the growing use of technological measures for copyright protection. The fact that it is in the remit of member states to decide whether, and how, to provide and implement limitations and exceptions in their national legislations is amplifying the uncertainty and complexity regarding copyright protection in the changing environment. The WIPO is a multilateral forum with the competence to discuss issues of international interest for member states on limitations and exceptions to copyright. The current proposals on the table in the SCCR merit support, particularly by developing countries. A more comprehensive framework for limitations and exceptions at the international level would serve to create greater legal

certainty and facilitate access to information and knowledge in accordance with national public interest objectives.

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Endnotes

1. Other copyright-related treaties administered by WIPO include the Brussels Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite (Brussels Convention), the Geneva Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms (Geneva Convention), and the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (Rome Convention). A notable exception is the World Trade Organization (WTO) 1994 TRIPS agreement.
2. Report of the Seventh Session of the SCCR, document SCCR/7/10, dated 31 May 2002, paras 142-146 (c).
3. SCCR document SCCR/8/2, dated 28 August 2002, paras 23-26.
4. Report of the Eighth Session of the SCCR, document SCCR/8/9, dated 8 November 2002, paras 102-126 (d).
5. "WIPO Study on Limitations and Exceptions of Copyright and Related Rights in the Digital Environment", prepared by Prof. Sam Ricketson for WIPO, document SCCR/9/7, dated 5 April 2003 .
6. "WIPO Survey on Implementation Provisions of the WCT

and the WPPT", prepared by the Secretariat, document SCCR/9/6, dated April 25, 2003. The WIPO survey found that the following exceptions and limitations appear in member state laws: personal or private use, educational use, use by libraries and archives, making of ephemeral copies by broadcasters, making of anthologies and certain databases, use of a computer programme as an adjunct to another legitimate activity, government use, use in court and parliamentary proceedings, use for scientific research, use in conjunction with reporting public affairs and current events, decompilation of computer programmes, temporary reproduction, secondary transmissions, such as by cable systems or hotels, reproduction for testing equipment, reproduction for purposes of time shifting, fair use and fair dealing, public display, reproduction in the form of depicting completed buildings and structures, uses for religious and spiritual purposes, uses by handicapped persons, and reproductions and non-voluntary licences for recording of musical compositions. One law reviewed contained provisions which specified that exceptions and limitations should have no effect on moral rights, while two laws reviewed contained provisions that exceptions and limitations should have no effect on technological measures of protection.

7. Report of the Tenth Session of the SCCR, document SCCR/10/5, dated 31 January 2004, paras 64-65, 77.

8. Proposal by Chile, "Exceptions and Limitations to Copyright and Related Rights", document SCCR/12/3, dated 2 November 2004.

9. Proposal by Chile, "Analysis of Exceptions and Limitations", document SCCR/13/5, dated 22 November 2005.

10. Report of the Thirteenth Session of the SCCR, document SCCR/13/6, dated 9 June 2006, paras 17-54.

11. "Automated Rights Management Systems and Copyright Limitations and Exceptions", prepared by Nick Garnett for

WIPO, document SCCR/14/5, dated 27 April 2006.

12. "Study on Copyright Limitations and Exceptions for the Visually Impaired", prepared by Judith Sullivan for WIPO, document SCCR/15/7, dated 20 February 2007.

13. The proposal was distributed as a meeting document distributed during the sixteenth session of the SCCR. It is currently not available as a WIPO document on the WIPO website.

14. The work of UNESCO on copyright and related rights is closely related to the implementation of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions which entered into force in March 2007. UNESCO also hosts meetings and undertakes studies on limitations and exceptions to copyright.

15. Ruth L. Okediji, "The International Copyright System: Limitations, Exceptions and Public Interest Considerations for Developing Countries", ICTSD, Issue Paper No. 15, March 2006. http://ictsd.net/i/publications/11725/

16. P. Bernt Hugenholz and Ruth L. Okediji, "Conceiving an International Instrument on Limitations and Exceptions to Copyright", Final Report, 6 March 2008. http://www.soros.org/initiatives/information/articles_publications/publications/copyright_20080506/copyright_20080506.pdf

17. The text of the "Declaration on a Balanced Interpretation of the Three Step test in Copyright Law"; the list of supporters of and signatories to the declaration is available at http://www.ip.mpg.de/ww/de/pub/aktuelles/declaration_on_the_three_step_.cfm

PART THREE

THE WAY FORWARD

CHAPTER VI

OPEN ACCESS MODELS FOR INCREASED ACCESS TO EDUCATION AND RESEARCH*

Viviana Muñoz Tellez**

For developing countries and least developed countries, access to knowledge is a priority. There are a growing number of initiatives and models promoting collaboration and open access to knowledge as alternatives to traditional proprietary models which often over-emphasize the need to protect creative and innovative works, rather than to access them in order to encourage learning. This chapter presents a brief background to some initiatives for access to digital content, and explores how they may support education and research in developing countries.

VI.1 Introduction

The rapid advance of information and communications technology (ICT) and digital technology has created unprecedented opportunities for the production, access and dissemination of knowledge. Digital technology and computer networks – particularly the Internet – allow for increased access to informative content and opportunities for learning. However, the potential of the digital revolution to support access to knowledge for developing countries is yet to be fully unleashed. The knowledge-gap is coupled with the wide "digital divide" that

persists both in terms of access to and diffusion of ICT among developed and developing countries.[1]

The potential applications of ICT and digital technology for education and research in the developing world are enormous. Increased access to digital content and connectivity in developing countries could help in tackling the critical problem of a lack of access to books and other materials for education and research.

Educational resources, scholarly literature and other writings and data are increasingly available online. They can now be converted from print (digitized) and disseminated via computer networks, or created as digital content that can, for instance, be indexed, manipulated, aggregated and separated out. In addition to the increased accessibility of the content, once digitized content is produced, it can quickly, easily and cheaply be reproduced, with a quality identical to that of the original, and disseminated online. In contrast to traditional publishing, where paper copying, storage and distribution costs can be significant, the costs of making additional copies of digital works are close to zero and the copies can be distributed widely via the Internet without causing any deterioration to the original work or reducing the possibility of access for others.

The problem for developing countries in taking advantage of such developments to promote education and research is twofold. On the one hand, most developing countries lack adequate or sufficient access to ICTs and adequate research infrastructure. On the other hand, developing countries confront significant barriers to accessing digital content, including technical (such as technological protection measures (TPMs), legal (such as IPRs) and price.

In parallel to the expansion of ICT and digital technology, there has been a growing trend towards the privatization of knowledge which has increased the cost of knowledge goods. In response, a whole range of novel initiatives and alternative

models for producing, accessing and disseminating knowledge are emerging. These include OA initiatives and models. The following sections present a description of two OA models that can promote education and research, and discusses how these seek to address access barriers.

VI.2 Addressing Access Barriers

OA initiatives seek, first and foremost, to remove barriers to access to, and use and dissemination of, digital works. Conditions for access are one of the key differences between content made available in print and digital content. While access to a copyright work in print requires only the physical availability of the material (that is, a book in print) which can then be shared, access to digital content requires that the content be reproduced, that is, a digital copy be made, every time it is accessed by a new user. This requirement makes copyright laws a concern for every user in the digital environment.

Copyright is a form of IPR granted to authors over their original creative works for a limited time. IPRs reward authors, creators and inventors for their work by granting them legal rights to control their inventions or works (proprietary rights). The overall purpose of such a system is to encourage innovation and the dissemination of knowledge for the benefit of society as a whole. However, over-emphasis on protection, rather than on access to knowledge goods, may also hinder such goals.

Copyright is subject to certain limitations and exceptions, such as use for private and educational purposes. While limitations and exceptions are critical in ensuring the balance between the rights of copyright owners and the public interest, their scope is limited and their application in the digital environment is unclear. In the digital environment, any user when accessing or downloading content will copy, and thus

potentially infringe, one or multiple sources of copyright. This may be so regardless of the intended use of the content and whether the user is aware of whether or not the content is protected by copyright. The burden is on the user, a researcher, a student, a library, or other body, to determine whether the content is protected and to clear such rights before access, which can be a costly and burdensome process. Yet failure to do so is sanctioned in law.

The process through which copyright content is disseminated is mainly through licences. However, the negotiation of licences for access may be lengthy, burdensome and expensive. This may be even more so if it requires clearing different layers of copyright or if the work is a collection of different copyrighted works, as is frequently the case with books and archives. This problem is exemplified by the numerous copyrighted works that are currently left inactive in archives (of governments, museums, libraries and so on) because the process of clearing copyright for digitising the works to make them available to the public, even when these have been produced with public funds, is too complex and expensive.

In addition to restrictions for access due to copyright law, digital content is often locked away behind technical protection measures (TPMs). TPMs are technical tools that allow the copyright owner to control or block access to a digital work. The argument for allowing copyright owners (or third parties to which they have licensed their rights, such as publishers and record labels) is the need to contain illegal use, copying and dissemination of copyright works in the digital environment.

In practice, TPMs become an additional protection granted to copyright owners, in addition to the exclusive rights of copyright, effectively strengthening their ability to control access to digital works. One of the main problems with the use of TPMs is that they may block access even when it would be legal for a user to read, copy or download the product, either because the use

falls under the scope of limitations and exceptions to copyright, or because the content that the TPM is protecting is free from copyright.

OA initiatives seek to make digital content as free from copyright and technology-based restrictions as possible, building upon the basic premises of copyright.

VI.3 Open Access Initiatives

OA models and initiatives seek to promote creativity and innovation while at the same time contributing to the dissemination of knowledge at as low a cost as possible.

There is no single definition of OA, but rather particular elements that can be clearly associated with the concept and drive of the OA movement. OA seeks (1) to prioritize access, as opposed to protection or privatization of knowledge goods, (2) to remove access barriers, (3) to make knowledge available for free or at low cost to as many people as possible, (4) to provide a working alternative to current proprietary models, (5) to build upon existing knowledge and collaboration among creators and/or researchers, and (6) to constitute a viable business model.

Open-access licensing and open-Access literature (or publishing) are two examples of working OA models and initiatives.

Open-Access Licensing

Open-content licensing is an OA model that has emerged to facilitate access to digital copyrighted content. A licence is the main means through which permission is granted by the copyright owner for the use of copyrighted works.

The model seeks to provide a means for works to be shared in the digital environment avoiding some of the obstacles created by copyright law and TPMs. In essence, the copyright owner voluntarily allows use of the copyrighted work beyond the scope of the limitations and exceptions allowed under copyright law.

One of the most popular models of OA licensing is Creative Commons (CC) Licensing.[2] CC licences are not anti-copyright, as they rely on copyright law to structure the licences that provide open access to digital content. In contrast with the "all rights reserved" model of copyright, a CC licence allows any copyright owner voluntarily to allow the copying, use and/or sharing of their works to the public under certain conditions.

Through the CC licence, the copyright owner can decide to grant some of their rights to the public, while retaining others. All CC licences have some common features, including that they grant the right to copy, distribute, display, digitally perform and make copies of the work into another format.[3] They are irrevocable, apply worldwide and last for the entire duration of copyright. They cannot use TPMs to restrict access to the work, but attribution must be given.

The CC model facilitates and promotes collaboration in the creation of new works. In accessing and using a CC work, the user abides by the principle that any new work created must also be made available to others under a CC licence. This way, the CC model ensures that work created under the OA model remains so, and that any new works built upon the model will also enrich the "creative commons".

Open-Access Literature

Scholarly works and research output are shared via publishing. The main avenue for publishing research output is academic journals. The number of publications and academic journals available in a country is also one of the indicators commonly

used to measure research capacity and competitiveness among countries. Journals, both in print and electronic form, are concentrated in developed countries. This reflects not only a lower level of research undertaken in the developing world, but also the lack of access to scholarly publications in developing countries to support research, and the difficulties in adopting the traditional model of academic publishing via journals.

The system of journal publishing involves several steps: authors submit a paper; then it is peer-reviewed to check for quality in the research work. If the paper is accepted for publication by the journal, the author is generally asked to render copyright of the work to the journal for publication; the paper is then prepared for publication, involving formatting, and editing, among other processes. It is then published in a particular edition of the journal, which is then made available to users for a subscription fee.

One of the main obstacles to access in the current system of research publishing is the cost of the subscription fees. In developing countries, for individual researchers and academics, as for libraries and universities, the costs are often too high. These high subscription costs are also becoming increasingly problematic in the developed world. An additional obstacle to access is that authors are generally obliged to transfer copyright to publishers and thus cannot widely disseminate their works themselves. Authors seek to publish primarily for the purpose of the recognition of their work and to be influential in their field, rather than for financial motives. Hence, authors seek to be quoted by peers as much as possible, and to disseminate their works as widely as possible in order to increase their influence.

In the digital environment, some of these problems can be addressed, such as the extra cost involved in publishing print copies and in preparing content for publication, including peer-review. However, digital content can also be locked up by TPMs and other technical restrictions to access, which support the

subscription-fee model of e-publishing scholarly literature. This poses a huge obstacle for the implementation of limitations and exceptions to copyright, since circumventing TPMs, even where permitted, can be very difficult. Moreover, it keeps digital content locked away from the many potential educational and research uses, including developing real-time collaborative works that the technology allows.

In response to the growing problems of access to scholarly literature, particularly in the digital environment in both developed and developing countries, the OA movement in this area is gaining strength among the research community. The OA movement in this area has been best defined by the Budapest Open Access Initiative.[4] The initiative focuses on peer-reviewed journal literature and emphasizes completely free and unrestricted access to it by all scientists, scholars, teachers, students and others. The free, unrestricted online availability of scholarly literature in digital form would eliminate the restrictions of the traditional publishing model, as well as harness the opportunities offered by digital technology, online, free of charge and free of most copyright and licensing restrictions.

OA literature is compatible with copyright. As in the case of OA licences, it works on the basis of the copyright owners' consent and doesn't require change to, or infringement of, copyright laws. OA also relies on works that are in the public domain, that is, works which are not subject to, or which have lost, copyright protection.

The main model through which OA literature operates is by ensuring that the costs of preparing, peer reviewing and distributing scholarly literature are not paid by the user, thereby eliminating subscription fees.[5] Such price barriers are the main obstacles removed by OA. OA publishing relies mainly on the author's paying a fee for the publication, rather than the user. It is intended that authors would make these payments out of their research budgets. However, in the case of developing countries,

researchers are often not supported by large research budgets granted by the academic institutions they may be associated with, and even publicly-funded research is scarce. In recognising these limitations, many OA journals currently waive fees for authors from developing countries.[6] OA initiatives are also rapidly expanding in developing countries.

One example of an OA initiative in developing countries is the Access to Global Online Research in Agriculture (AGORA) Project.[7] It offers tiered pricing to over 400 scientific journals specializing in food, nutrition, agriculture, biology and environmental science. A number of well-known international publishers participate in the project, including Blackwell, Oxford University Press and the Nature Publishing Group.

Another OA initiative which allows wider distribution of works at no cost to users is online repositories or archives.[8] Authors and researchers participating in the OA movement are increasingly asking journals to allow them to self-archive copies or earlier versions of their works in OA online repositories or archives that are free and open to the public. While the on-line publishing process has the benefit of eliminating intermediaries, it has been argued that repositories do not guarantee the quality of the material made available and that they cause information overflow. To remedy this, some include peer-review processes or minimum requirements such as author's references or links to other publications.

VI. 4 The Open Access Model and the Multilateral Debate

OA has been largely the initiative of researchers, society publishers, scientific communities, academics, librarians and universities. The initiatives receive strong support from development-funding agencies. The OA model is also receiving considerable attention from commercial publishers.

The public policy debate on promoting and supporting the OA model has resulted in some developments. The debate circles around mandating OA in publicly-funded research projects, exceptions and limitations for libraries, archives and museums, and recently the rights of search engine operators and others to digitize content for OA.[9] The Organisation for Economic Co-operation and Development (OECD) has adopted a declaration on access to research data generated with public funding.[10] Yet meaningful policy development in promoting and supporting the OA model, and reducing the tension among IP right holders and content technology developers, remains critical.

In this regard, important contributions are made by developing countries in engaging WIPO on the issues of OA under the Development Agenda for WIPO. Some of the related developments achieved during the third meeting of the Provisional Committee on Proposals Related to a WIPO Development Agenda (PCDA) include the proposal that WIPO consider the preservation of the public domain within WIPO's normative processes and deepen the analysis of the implications and benefits of a rich and accessible public domain.[11]

However, important proposals directly relating to the OA were considered at the fourth meeting of the PCDA in June 2007. The proposals covered the main public policy debate with respect to the mandating of OA for publicly funded research output, limitations and exceptions to copyright and norms on access to knowledge. These proposals required the examination of the OA model itself and included proposals:

1) To promote models based on open collaborative projects to develop public goods, as exemplified by the Human Genome Project and Open Source Software;

2) To negotiate a multilateral agreement where signatories would place into the public domain, or find other means of sharing at modest cost, the results of publicly funded research. The objective would be to

set out a mechanism for increasing the international flow of technical information, especially to developing countries, through expansion of the public domain in scientific and technological information, safeguarding, in particular, the public nature of information that is publicly developed and funded without unduly restricting private rights in commercial technologies;

3) To examine non-IP type and/or non-exclusionary systems for fostering, creativity, innovation and transfer of technology (e.g., free software development and creative commons models);

4) To establish a Treaty on Access to Knowledge and Technology; and

5) To establish in WIPO an area of analysis and discussion of incentives promoting creative activity, innovation and technology transfer, in addition to the IP system, and within the IP system, for example emerging exploitation models. This could be achieved through either of two mechanisms:

   i. An electronic forum maintained by WIPO for the exchange of information and opinions. It could have a limited duration (e.g. one year), after which proposals and discussions could be summarized in a document. If there is interest and critical mass, we would analyse if and how to proceed. Discussions in the forum could be organized under the following sections: Tools within the IP system (e.g. utility models, systems of free and open licences and Creative Commons), and those complementary to the IP system (such as subsidies, Treaty on Access to Knowledge, Treaty on Medical R&D);

   ii. To include this issue as a permanent item in the agendas of the WIPO Committees.

Considering the contribution of OA for education and scientific research, it is imperative to develop public policies at both national and international levels. Normative developments on what have been largely the initiatives of universities, libraries, academicians and other interest groups would help to harness the benefits of OA and provide support to the private initiatives.

VI.5 Conclusion

OA initiatives and models are proving to be viable alternatives to proprietary models for promoting creativity and innovation. OA licences and OA literature are two examples of how such models can work in practice to promote the production of, access to and dissemination of research output and educational materials while eliminating many of the cost and technical access barriers.

Science, education and research, particularly in developing countries, stand to benefit greatly from OA initiatives, while not replacing or causing any disturbance to the current copyright system. OA models are an alternative for information management in the digital environment which prioritizes access to knowledge – a clear priority and pervasive gap in developing countries. Such models are an example of how the interests of IP rights holders to control their works can be reconciled with the interests of users and society at large in the distribution and dissemination of works, and how the opportunities that the digital revolution presents for learning and knowledge creation can be harnessed.

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Endnotes

1. On quantification of the digital divide, see UNCTAD (2005), The Digital Divide Report: ICT Diffusion Index.
2. www.creativecommons.org
3. For an explanation of each type of CC licences, see http://creativecommons.org/about/licenses/meet-the-licenses
4. http://www.soros.org/openaccess
5. Peter Suber, "Open Access Overview", last accessed 14 April 2007. http://www.earlham.edu/~peters/fos/overview.htm
6. For a listing of projects that bring free or affordable journal access to developing countries, see http://www.gdnet.org/middle.php?oid=247
7. www.aginternetwork.org/en/
8. See for example, the Scientific Electronic Library Online, SciELO project. http://www.scielo.org/index.php?lang=en
9. See for example, Report of the European Research Advisory Board on Scientific Publications: Policy on Open Access, EURAB: 06.049, December 2006.
10. OECD (2004), Science, Technology and Innovation for the 21st Century: Meeting of the OECD Committee for Scientific and Technological Policy at Ministerial Level, 29-30 January 2004 - Final Communiqué, Annex I.

11. WIPO (2007), Summary by the Chair, Provisional Committee on Proposals Related to a WIPO Development Agenda (PCDA), Third Session, Geneva, 19-23 February 2007, para. 10.

CHAPTER VII

A COMPREHENSIVE FRAMEWORK FOR COPYRIGHT PROTECTION AND ACCESS TO KNOWLEDGE: FROM A BRAZILIAN PERSPECTIVE AND BEYOND

Pedro Paranaguá*

VII.1 Introduction

During the twentieth century, the development of new technologies gradually shortened the distance between humankind and cultural works. It became increasingly easier to access artistic, scientific and literary works for study or entertainment. At the same time, authors increased their potential to make available and distribute their own works, rather than transferring control to intermediaries. Moreover, other forms of expression and formats emerged, enabling works to be accessed ever more quickly and efficiently. Distance and time have been made relative. This peaked with the arrival of the Internet in the mid-1990s – although some developing countries still have very incipient networks, albeit ones that are growing.

Towards the end of the last century and largely as a result of the advent of the Internet, it became clear that access to knowledge – texts, music, films, photographs and sound recordings, among other things – extended beyond the boundaries of the physical. With the breakdown of territorial borders in the virtual world and the fast pace of globalisation, the encyclopedic dream of gathering all human knowledge in one place was accomplished in the most unexpected manner possible: anyone

hooked up to the worldwide web would have access to virtually all human knowledge.

It is impossible to deny the benefit of the opportunity to gain access to scientific, literary, musical, cinematographic and other kinds of works from the most diverse places and cultures. Access to human intellectual works is directly linked to economic and social development. More than that, it is also linked to education, helping to build a global community able to meet the lofty ideals of the Universal Declaration of Human Rights.

In relation to developing countries, access to knowledge is even more necessary, since the question of development is directly related to education and to scientific and cultural production, as well as to broad access to culture, information and knowledge.

While new technologies may well improve quality of life, and ease access to knowledge-based goods, they also have their drawbacks, such as making it more difficult for authors and copyright owners to control the making available, copying and distribution of their work. Some industries are trying to keep their traditional business models, without realising the advantages that new technologies might bring to them – and to their consumers. Technology should not be seen as a competing enemy, but rather as a partner which will enhance profits while at the same time widening access to knowledge-based goods.

This has been the case for various authors and copyright owners. In the late 1970s and early 1980s Hollywood sued videocassette producer Sony, employing the argument that their Sony Betamax technology promoted copyright infringement. The United States Supreme Court decided otherwise: that the then new technology could be used for substantial non-infringing uses as well, and thus it should not be banned. As a result, more than a quarter of Hollywood's profit came from videotape rental. Famous Brazilian writer Paulo Coelho decided to upload illegal

copies of a Russian version of his own book to the Internet: as a result he watched an increase in his sales from 1,000 to 1 million books a year in Russia.[1] Then there are artists such as Nine Inch Nails, who made their album freely available on the Internet, and achieved the number-one-selling MP3 album on Amazon.com,[2] or BNegão, a Brazilian singer who has never launched a CD abroad, but who is constantly invited to perform in Europe due to the licensing of his works under a free-to-copy and -distribute Creative Commons licence. Restricting access is not always the best option.

Perhaps the copyright regime should be adapted to the new possibilities brought by technology, while at the same time fostering investment and creativity, as well as access to knowledge. A sound copyright regime should take into account social and economic values, and serve as a means for sustainable development.

It is necessary to observe that there are economic and social obstacles that must be analysed in the light of this development objective. In a globalised world, access to culture and educational goods is not always available to all. Here, economic disparity plays a crucial role. For example, the availability of any work may depend on wealth (a work may be available to only a small number of wealthy people), technological impediments (the technology needed in order to access the work may be unavailable), or the economic and geographical isolation of certain developing countries in relation to the availability of informational goods.

This is not just a socio-economic issue but one that relates directly to copyright: copyright can represent both an incentive to production and an obstacle to access.

VII.2 The Brazilian National Copyright Forum

While Brazil is generally seen internationally as a successful model connected to open and collaborative IPRs such as free and open-source software, or the Creative Commons[3] licences, at the national level the reality is somewhat different. The Brazilian Copyright Act, for instance, is one of the most inflexible copyright statutes in the world; that is, it represents much more the interests of copyright owners – and not necessarily of authors – than it provides a fair balance towards the public interest at large.

Having this in mind, the Brazilian Ministry of Culture launched in late 2007 what was known as the "National Copyright Forum". The Forum aims at publicly discussing with various stakeholders such as authors, copyright owners, consumer groups, academia, collecting societies, and the public at large, a public copyright policy that is based on three pillars: (i) promoting copyright protection while guaranteeing access to knowledge, (ii) promoting a balance between the rights conferred by the copyright regime so that these rights effectively foster creativity, and (iii) implementing a copyright regime that fully embraces the needs and problems of Brazilian society, guaranteeing that the costs will not outweigh the benefits. The main challenges faced by the Brazilian government are the amendment of the Copyright Act, and the need to regain its public function of supervising and auditing copyright activities within Brazil – including those undertaken by collecting societies, since Brazil is one of the few countries in the world where there is no type of government supervision on collecting societies.[4]

The Brazilian Copyright Act does not reflect the socio-economic reality of the country. There is no private copying provision,[5] and no archiving exception for libraries, archives or museums, quite apart from difficulties in making copies for

persons with special needs, not to mention the lack of a compulsory licence provision for abuse of copyrights, and so on.

Accordingly, following several months of public discussions Brazil is putting forward in 2009 a much-needed and anticipated copyright bill, aimed at striking a balance between fostering creativity, investment and copyright protection on the one hand, and access to knowledge on the other.

VII.3 Recommendations for Developing Countries

The idea here is to present some policy recommendations to developing countries in order for them to be in a better position eventually to implement copyright flexibilities foreseen or not forbidden by international treaties, with the final objective of fostering investment and creativity in the cultural field of copyrighted works while at the same time promoting wide diffusion of, and access to, copyrighted material.

Virtually all recommendations, except for the one relating to technological protection measures (TPM), may be adopted by any developing country, even if it is signatory to the WIPOCopyright Treaty (WCT). Countries which are signatory to the WCT shall not adopt the recommendation on TPMs. It is worth mentioning, furthermore, that several *developed* countries have already incorporated within their national systems, in one way or another, all or some of these flexibilities.

Minimum Term of Protection

Copyright has a dual configuration: (i) moral rights, referring to the author's personality and, for this reason, like any other personal right, they are perennially exercised, cannot be waived and are not necessarily related to the economic exploitation of the work, and (ii) exclusive economic rights, which last for a term

fixed by law. Once this period of time has elapsed, the work falls into the public domain, but only in relation to the economic rights.

Both the Berne Convention and the TRIPS agreement set the term of protection for economic rights of a copyrighted work. The baseline term of protection is determined by article 7(1) of Berne: the lifetime of the author plus 50 years.

Besides this term of protection, article 7 of the Berne Convention also establishes specific terms of protection, relating to (i) cinematographic works: 50 years after the work has been made available to the public or from the making of the work, (ii) anonymous or pseudonymous works: 50 years after the work has been lawfully made available to the public, and (iii) photographic works and works of applied art: at least until the end of a period of 25 years from the creation of such a work.

Article 7(6) of Berne states that its signatory countries may determine, in their own copyright laws, longer terms of protection. However, the present author emphasizes that this is an option and not an obligation, and that it is up to the policy makers of each country to decide whether or not to include a longer term of protection in their own copyright laws.

In the case of developing countries it is certainly difficult to justify a longer term of protection than that established by Berne and TRIPS. With the baseline copyright term, works would fall into the public domain after allowing their owners a generous period of exclusive economic exploitation. An important aspect to be observed is that developing countries are at an international disadvantage with regards to royalty payments for the use of copyrighted works – including everything from software to cinematographic works – since the majority of developing countries are currently licensees of copyrighted works. A longer term of protection for copyrighted works clearly increases this disadvantage for developing countries.

It is relevant to mention that the beginning of copyright law as it is known nowadays took place in Britain in the early eighteenth century, as "an Act for the encouragement of learning", and it was in fact an exclusive right conferred on publishers in return for publishing copies of a given work (this is the idea of *copyright*). The term of protection was 14 years, and could be renewed for another 14. Nowadays, ironically, with lower costs of production, and a much higher number of consumers, the minimum standard is the entire life of the author plus 50 years – and various countries have adopted a "life of the author plus 70 years" clause. This means that a work may be copyrighted for approximately 100 years or more.

Nowadays, under trade pressures from the North or from copyright national organizations, quite a few developing countries adopt a copyright term of protection that is at least 20 years longer than the minimum standard required by Berne and TRIPS, which means that the public at large needs to wait for a further 20 years in order to have free access to copyrighted materials. As a result, the longer term prevents society from using copyrighted works even after an adequate term of protection. Social and economic aspects should be taken into account – such as, for instance, gross domestic product (GDP) per capita, perhaps combined with purchasing power parity.

Two of the main arguments against the extension of the term of copyright protection are: (i) to bring about a balance between private and public interests; after entering the public domain the works can be freely used by anyone, even to create new works based on other works, and (ii) the payment of royalties for the use of copyrighted works, especially to rich countries from the North, would increase by 40 per cent (considering the extension of the term of copyright protection from 50 to 70 years after the death of the author), resulting in a higher imbalance in net exports, mainly for developing countries, as the majority of copyright owners are concentrated in a few countries of the North.

Berne and the TRIPS agreement allow developing countries that are not party to the WCT and the WIPO Performances and Phonograms Treaty (WPPT) or to any TRIPS-plus agreement to adopt the "50 years plus life of the author" standard for copyrighted works.

Recommendation: Developing countries should adopt the minimum term of copyright protection, provided they are not signatories to the WCT/WPPT or to any other treaty establishing a copyright protection term longer than the ones mandated by Berne and TRIPS. In reducing the term of protection from, say, 70 to 50 years plus the life of the author, it is important to guarantee that vested rights, as well as expectations of rights, are not harmed, and perhaps a transitional period of three to five years should be adopted before the new provision enters into force. This reduction is in accordance with the Berne Convention (article 7(1)) and the TRIPS agreement (article 12). If a developing country is party to any other international instrument besides Berne and TRIPS, it should assess the costs and benefits of adopting a higher term of protection for copyrighted works, and consider withdrawing from such a treaty.

Parallel Importation

Although the issue of parallel import is not regulated by the Berne Convention or the TRIPS agreement, parallel import should not be forbidden, considering that it constitutes a legitimate mechanism which may provide easier *access* to national or international works, eventually with lower prices. With increasing globalisation and the rise and expansion of free trade agreements, to impede parallel import would be a true contradiction.

Recommendation: There is no prohibition in the Berne Convention or in the TRIPS agreement in relation to parallel import, and for this reason developing countries may authorize it, making access to knowledge-based goods easier.

Idea – expression Dichotomy

The Berne Convention does not have a specific provision on this matter. The TRIPS agreement provides in its article 9(2) that "copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such".

The objective is clear: ideas should not be appropriated by means of granting privileges or temporary monopolies for commercial exploitation.

Recommendation: Every developing – and developed – country shall not give any type of copyright protection to ideas, and this should be clearly and expressly stated in their national statutes. Should this not occur, there would be a clear violation of a basic principle of the copyright regime and of the TRIPS agreement.

Educational Purposes

Article 10(2) of Berne states, "It shall be a matter for legislation in the countries of the Union, and for special agreements existing or to be concluded between them, to permit the utilization, to the extent justified by the purpose, of literary or artistic works by way of illustration in publications, broadcasts or sound or visual recordings for teaching, provided such utilization is compatible with fair practice."

The objective of the Berne Convention is to broaden the possibilities of use of copyright-protected works with the purpose of promoting access to knowledge, and to fulfil the human right to education. There is no limitation in the above-mentioned clause on the extent of the authorized use, the use of the whole of the work being totally feasible, provided such utilization is justified by the purpose, and is compatible with fair practice.

There are two aspects of the above-mentioned section which deserve special attention. The Berne Convention states the "conditions under which the works may be legally **used**". There is no restriction at all on such use, and thus the interpretation must be the broadest one. Furthermore, this section states that works may be used "by way of illustration in publications, broadcasts or sound or visual recordings for **teaching**". Thus, any type of use shall be considered, and not only reproduction. Moreover, there is no restriction on the type of teaching, which leads us to uses for distance learning as well.

Recommendation: This is certainly one of the most important provisions within the copyright regime since it deals with issues of human dignity and the level of human development of a country; thus developing countries should expressly adopt a provision authorizing certain uses of copyrighted material – including the full copying of any work – for educational purposes, including distance learning, provided it is not-for-profit.

Exceptions to Quotation[6]

Article 10(2) of the Berne Convention states, "It shall be permissible to make quotations from a work which has already been lawfully made available to the public, provided that their making is compatible with fair practice, and their extent does not exceed that justified by the purpose, including quotations from newspaper articles and periodicals in the form of press summaries."

Again, there is no clear limitation connected to the extent authorized. Even though this provision states that the extent of the quotation shall "not exceed that justified by the purpose", it does not follow that one cannot quote the whole of a work if this is justified by the purpose.

Thus, some reflections should be made when interpreting the above-mentioned provision:

a) The freedom to authorize quotations from a third party's work shall be interpreted in the broadest manner, without limiting the extent of the quotation;

b) There should not be any restriction on the objective of the quotation, since the Berne Convention does not differentiate any objective, provided however that the quotation shall be used in compliance with fair practice.

c) There should not be any limitation regarding the type of work capable of being quoted, meaning that not only literary works may be quoted, but any other type of work.

Recommendation: The right of quotation should be expressly implemented in national legislations, without any restriction beyond those required by Berne, so as to guarantee freedom of expression, right to education, and access to knowledge.

Official Texts and their Translations

Article 2(4) of the Berne Convention states, "It shall be a matter for legislation in the countries of the Union to determine the protection to be granted to official texts of a legislative, administrative and legal nature, and to official translations of such texts".

Recommendation: If a certain country wishes to have a transparent and inclusive approach towards its citizens, no copyright protection shall be given to texts of treaties, conventions, laws, decrees, regulations, judicial decisions or to

any other official administrative or legal act, including their translations.

Political Speeches and Judicial Proceedings

Article 2(bis), I, of the Berne Convention states, "It shall be a matter for legislation in the countries of the Union to exclude, wholly or in part, from the protection provided by the preceding Article political speeches and speeches delivered in the course of legal proceedings".

Recommendation: Again, if a certain country wishes to have a transparent and inclusive approach towards its citizens, no copyright protection shall be given to political speeches, speeches delivered in the course of legal proceedings, and eventually to any speech delivered in a public space.

Databases

Every country which is party to the TRIPS agreement must grant protection to databases, as stated in its article 10(2): "Compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations, shall be protected as such. Such protection, which shall not extend to the data or material itself, shall be without prejudice to any copyright subsisting in the data or material itself."

It is important to stress that according to the TRIPS agreement the protection shall be given to *compilation* of data, and *not* to the data itself. Should this be otherwise, there would be copyright protection for investment itself, and not necessarily for creative works of the human intellect.

Recommendation: Developing countries which are party to the TRIPS agreement should not extend copyright protection to the data or material contained in a database, without prejudice to

any copyright subsisting in the data or material itself; otherwise it innovation might be stifled. Countries that are not party to the World Trade Organization, or any TRIP-plus treaty, may consider not adopting any copyright protection, including for the compilation of data, since it is much more related to investment than to artistic creativity itself.

Private Copying

Berne and TRIPS do not prohibit the adoption of a not-for-profit private copying system, including the copying of the whole of a work. Having in mind the third step of the so-called Berne three-step test (unreasonable prejudice to the right holder's legitimate interests) one might argue that it would be mandatory to implement a compensation system for authors and rights holders connected to the private copying of their works. Should this be the case, it is important to stress that only a fair and equitable compensation be implemented, taking into account the level of development of a specific country, plus the eventual non-use of human and material resources usually employed for the regular development of a product (for example, labelling, paper, ink, packaging, salary, taxes, intermediaries).

There are, however, other special cases where no compensation at all is due for the private copying of a work. For instance, in the case of a book that has been out of print for, let us say, at least three years, the right holder no longer has a commercial interest in it, let alone any *legitimate* interest. Had it any legitimate interest, it would have made every effort to keep the work available to the market. Private copying should therefore be allowed, and no compensation is due, provided the work is out of print or not readily available in the national market for at least three years. Moreover, should other publishers have an interest in commercializing such work, a non-exclusive compulsory licence should be granted – on a royalty-free basis (please refer to item "compulsory licence" below).

Recommendation: Developing countries should expressly adopt a legal measure allowing not-for-profit private copying. If a compensation system to authors or rights holders is to be implemented, it should be guided by a fair and equitable approach. In some special cases no compensation at all is due.

Libraries and Archives

The copyright statutes of several developing countries, such as Brazil, do not allow the making of copies by libraries, archives, museums and related entities for the purpose of preservation or for that of research by their users. Such restraints are a tremendous disadvantage to the cultural and scientific development of these developing countries.

A book legally acquired may be damaged and eventually turn into dust, and nothing can be done if no legal provision allows for its preservation. Several specific acts should be allowed under this provision, such as: (i) the possibility of replacing works with copied works from other institutions, should the original works have been lost or damaged, (ii) allowing archiving or incorporating into the collection of a particular library a work that has been out of the market for at least five years, (iii) copying or making digital copies of works legally acquired should they be damaged, or to prevent their getting damaged, amongst other possibilities.

Recommendation: Developing countries should expressly adopt a legal provision allowing libraries, archives, museums and the like to make a full copy of any copyrighted work provided it is for archival or preservation purposes, or in some cases for the research purposes of users, without the need in any case to compensate the author or the rights holder of the work.

The Visually and Hearing Impaired

Providing access to cultural goods protected by copyright should not discriminate against persons with visual, hearing or intellectual impairment. Access should be broad and inclusive. Bearing in mind that millions of people have some type of visual, hearing or intellectual special need, special treatment should be given to them; otherwise they will be excluded from cultural life.

Recommendation: Developing countries should expressly implement a legal provision allowing for the reproduction and adaptation of any copyrighted work – including format shifting, translation and the insertion of symbols in the original work – in order to meet the special needs of visually and/or hearing impaired persons, provided that it is not for profit. No compensation should be given, provided this limitation is not for profit.

Fair Use-like Clause

This may be based on the famous "three-step test" rule foreseen by the Berne Convention – as well as by the TRIPS agreement – as a way to *make flexible* access to knowledge-based goods.

Article 9(2) of Berne states, "It shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author."

As may be seen, the Berne Convention allows for each member country to implement an exceptional reproduction right. There is no provision within Berne that prohibits a reproduction of the whole work. Moreover, while under certain special circumstances, there is no need to give compensation for the reproduction of the work, in other cases it might be due.

The TRIPS agreement, in its article 13, goes beyond this, stating, "Members shall confine limitations or exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder." According to TRIPS, in other words, the general rule of fair use shall not apply solely to the right of reproduction, but rather to any type of limitation or exception.

Recommendation: Besides the adoption of a *non-exhaustive* list of exceptions and limitations to copyrights, developing countries should also adopt an *open-ended* provision on a similar basis to the fair use system adopted by the United States. The open-ended provision would be complementary to a non-exhaustive list of exceptions and limitations, bringing more balance to the different interests involved, and reaching uses that are not eventually covered by any of the items on the non-exhaustive list.

Technological Protection Measures – TPMs

The signatories to the WCT must provide adequate legal protection and effective legal remedies against the circumvention of effective technological protection measures (TPMs) aimed at preventing or restricting the copying of copyright-protected works.[7]

For instance, Brazil has chosen not to be a signatory of the WCT, and thus is not tied to such obligations. Despite that, the Brazilian Copyright Act adopted a similar provision in its article 107, even though there is no international obligation to do so. Thus, Brazil adopts a protection regime that goes beyond the international standards mandated by the Berne Convention and the TRIPS agreement, and this might not be the best option for the public interest at large.

Moreover, TPMs aimed at preventing or restricting the copying of copyrighted works are widely known to be inefficient. As mentioned in one study,[8] there is plenty of information on the Internet on how to circumvent TPMs, be it applied to music, films, electronic books or other works. For example, the High bandwidth Digital Content Protection (HDCP) technology that some interest groups wish to apply to the Brazilian digital television system is the subject of a study by Professor Edward Felten of Princeton University, who explains step by step how the technological measure may be circumvented.[9] And there are plenty of other studies evidencing that TPMs do not work properly, such as studies undertaken by Professors Scott Crosby (Carnegie Mellon), and Robert Johnson (University of California at Berkeley).

This is also the case with other types of TPMs which are equally proven to be inefficient. For instance, the "content scrambling system" (CSS) designed to prevent DVD copying, despite the great amount of research and investment involved, has been circumvented by a 16-year-old boy.[10] Even the most recent TPMs applied to the new Blu-Ray and HD DVD formats have been circumvented.[11]

Thus, as may be seen, TPMs aimed at restricting or preventing the copying of digital content are inevitably capable of being easily circumvented. And this brings us to the following conclusion: anyone who wants to profit illegally from selling copyrighted works to third parties is not thwarted by TPMs. In real life, mechanisms developed to limit and prevent the copying of works are not able to fulfil their fundamental objectives, and consumers in good faith end up being left aside, and not able to exercise the limitations and exceptions to copyright authorized by law,[12] while large-scale commercial counterfeiters continue to profit.

These technological mechanisms have proved to be so inefficient that even the four major music labels are ceasing to use them.[13]

Recommendation: Developing countries should exclude from their legislation, or not adopt, any prohibition on circumventing any type of TPM aimed at limiting or preventing the copying of copyrighted works, provided these countries are not signatories to the WCT or WPPT, or to any other instrument that prohibits the circumvention of TPMs.

Incidental and Transient Copying

Incidental copying should be allowed in order to strike a balance between copyright protection and freedom of expression. When someone makes a documentary film, for instance, and in the background of a scene we may observe a television set playing a copyrighted episode of *The Simpsons*, there should be no copyright infringement provided this incidental copying is not deliberate. A reasonable and fair approach should apply. Moreover, when using a data processing device one normally uses its random access memory (RAM) in order transiently to open files, visualise images and so on. When surfing the Internet one might do this several times per minute. Thus, the simple act of opening a copyrighted work through RAM should not be copyright infringement, otherwise the use of the Internet would be virtually forbidden unless one accessed free-to-copy content only.

Recommendation: Developing countries should expressly adopt a legal provision allowing the insertion of any work or content in other works or content, provided the insertion is incidental and not deliberate, without the need to compensate the author or the owner of the work. Transient copies needed due to technological issues should also be allowed, with no need to compensate the author or owner of the work.

Format Shifting and Interoperability

Persons who have legally acquired a work that originally plays via an analog medium cannot enjoy their cultural good on digital systems if the copyright law of their country does not allow the full copying of a work for this purpose; for instance to convert a long playing (LP) disc into an MP3 digital file one needs to make a full copy of the work. The same occurs when someone legally purchases a digital song through the Internet and later finds that it will not play on the portable digital player of her/his choice because the format system is not compatible. Technology industry and/or copyright owners should not impose on consumers which format, device, standard or brand they should use. Moreover, with the advance of technology, digital portability and convergence are crucial for the advance of a sound and balanced cultural life.

Recommendation: Developing countries should expressly adopt a legal provision allowing conversion to different formats and/or standards than the one used for the original work, without the requirement of having to compensate the author or the rights holder of the work for such format shifting.

Compulsory Licences

Copyright owners do not in every case duly inform consumers of their rights, such as whether they are allowed to make copies of a copyrighted work, and if so to what extent,. In other cases, copyright owners do not fully inform consumers of the restrictions the former impose through TPMs, limiting or preventing some authorized uses that consumers could make with the legally acquired copyrighted work. In some other cases, for instance, books are out of print or not readily available in a national market, and consumers do not have the option of buying them, not even for educational purposes. As a consequence, the social function of the copyright regime is not fulfilled: authors are not remunerated, owners do not profit, and cultural consumers do

not have access to the knowledge-based good – it is a lose-lose-lose game.

Recommendation: In order to strike a balance between private and public interests, and to prevent abuse by authors and/or owners of copyrighted works, there should be a liability rule through a legal provision imposing a non-exclusive and non-voluntary licence – that is, a compulsory licence – for works under certain special circumstances such as that mentioned above. It shall be stressed that for out-of-print works there should be no royalty fee or compensation to the original right holder, since it has not complied with its social function and neither had it any further pecuniary interest in the cultural good.

VII.4 Conclusion

International treaties such as Berne and TRIPS foresee some possible copyright flexibilities which may or may not be implemented within national legislation; that is, they are not mandatory. On the other hand, copyright protection is mandatory under these treaties, and thus all of their provisions must be implemented nationally. As a result, we often observe national copyright regimes that are much more focused on the private interests of copyright owners – and eventually of authors – than on the public interest of access to knowledge.

Bearing this in mind, and taking into account the great advances of new technologies, plus the socio-economic needs of developing countries, it is suggested that the above-mentioned recommendations be adopted, plus the following broad policy actions, all of them focused on striking a balance between fostering investment on cultural production, creation and copyright protection on the one hand, and access to knowledge on the other.

1) Should a developing country not be signatory to the WCT and/or the WPPT, as in the case of Brazil, it should refrain from signing them, since they have TRIPS-plus provisions mandating a more rigid copyright protection than such a country's current stage of development is capable of absorbing, which creates greater drawbacks than benefits for society as a whole.

2) Should a developing country already be signatory to either the WCT or the WPPT, it should weigh the costs and benefits, and consider withdrawing. Should this not be the best option, it should make sure that it implements the flexibilities recommended here in the broadest manner allowed.

3) Developing countries should put all their efforts into not signing any free trade agreement (FTA) with TRIPS-plus clauses. Should their officials be in doubt as to whether or not to enter into such an agreement, or as to what would be the best language to use, they could consult with relevant international organizations such as the South Centre or the International Centre for Trade and Sustainable Development (ICTSD), amongst others.

4) Following on from the above recommendation, no developing country should be party to the under-negotiation Anti-Counterfeiting Trade Agreement (ACTA), since it is not only TRIPS-plus, but also WCT- and WPPT-plus, with much greater costs than benefits for developing countries.

5) Developing countries should engage in the discussions of the United Nations WIPO Standing Committee on Copyrights and Related Rights (SCCR), especially in regard to the recent debate on exceptions and limitations to copyright law.

6) Developing countries should promote the adoption of an international instrument with a minimum set of mandatory exceptions and limitations to copyright; if the private interest of

copyright owners is mandatory, why should not the public interest of access to knowledge also be mandatory?

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Endnotes

1. http://www.newsweek.com/id/108715
2. http://arstechnica.com/old/content/2009/01/free-nine-inch-nails-albums-top-2008-amazon-mp3-sales-charts.ars
3. www.creativecommons.org
4. "Fórum Nacional de Direito Autoral: Direito Autoral – conheça e participe desta discussão sobre a cultura no Brasil", http://www.cultura.gov.br/site/wp-content/uploads/2009/01/livro-direito-autoral.pdf
5. There is only a very limited provision, allowing the copying of small excerpts under some special circumstances.
6. Some other, similar, limitations to copyrighted works are the provisions for criticism and review (art. 10.1, Berne), and for news reporting (art. 10*bis*.2, Berne). Since these limitations are commonly understood, the present author does not comment further on them.
7. Art. 11: Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are

used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.

8. "*Estudo Técnico-Jurídico: Sistema Brasileiro de TV Digital (SBTVD) e Implementação de Tecnologia Anticópia*" (Legal-Technical Study: the Brazilian Digital TV System (SBTVD) and the Implementation of Anticopy Technology), Centre for Technology and Society, Fundação Getulio Vargas (FGV) School of Law in Rio de Janeiro, 2007.
9. http://www.freedom-to-tinker.com/?p=1005
10. CNN: "Meet the Kid behind the DVD hack", available at http://archives.cnn.com/2000/TECH/computing/01/31/johansen.interview.idg/
11. http://blog.wired.com/gadgets/2007/02/the_new_hddvdbl.html
12. For more information, see http://www.eff.org/pages/customer-always-wrong-users-guide-drm-online-music/ and www.idec.org.br/restricoestecnologicas (the latter in Portuguese)
13. http://www.apple.com/itunes/whatsnew/

CHAPTER VIII

TOWARDS A DIGITAL AGENDA FOR DEVELOPING COUNTRIES*

Dalindyebo Shabalala**

VIII.1 Introduction

Copyright is, above all, a statement about the value that a nation places on its cultural creativity and patrimony. Copyright reflects what a country values the most about its own culture and how that culture and knowledge should be created, shared and disseminated.[1] By and large, developing countries have been forced to accept a copyright policy model based on the values and cultures of commercial actors in developed countries who do not necessarily share the values and cultures of individuals and communities in developing countries. This extends from requirements to pass particular kinds of laws[2], to establishing new institutions and governmental structures, to adopting foreign jurisprudence and finally, to implementing and submitting to foreign judgments.[3] Even where choice could have been exercised in the post-colonial phase of development, most developing country copyright legislation has mirrored that of the former colonial power.[4] This has ensured that developing countries remain on the periphery of global knowledge production and distribution systems in fields such as print publishing, music performance and recording, film and television, and other major cultural industries.

The advent of digital and internet technologies may, however, present an opportunity for developing countries to design for themselves more appropriate and culturally relevant systems for encouraging the production, and ensuring access to, and dissemination of, cultural products. In developing copyright policies for digital and internet content and technology, developing countries now need to go beyond the rhetoric of "stronger, faster, more" IP that predominates in discussions about the creation and dissemination of culture. They are now presented with the opportunity to clearly determine in what way their development interests would be served by particular forms of copyright regimes and they can choose to act accordingly, rather than satisfying the needs of developed country content industries or small domestic interest groups.

Such an approach is even more necessary considering that the causal link between expanded copyright protection (thus limiting access both for consumption and for the raw materials for further creativity) and economic development remains tenuous at best for developed countries, let alone for developing countries. A lesson should be learned from what developed countries did when they were still developing economies: they emphasized greater access for their own nationals rather than greater protection, until they became primary producers and distributors of cultural goods themselves.[5] Even in the 20th century, it has been convincingly argued that copyright protection played a largely passive role in the development of cultural industries such as the television and film industries.[6] This only serves to outline the primary truism of the new digital age: that increased copyright protection for digital and internet content serves largely to protect the market position of already established industries rather than as a necessity for increased creativity, production and dissemination of cultural goods.

The opportunity presented by digital and internet technology converges with a moment in international policy-making that presents real scope for developing countries to

implement development-appropriate copyright regimes. However, there are various limitations which are considered in the following section.

VIII.2 The Reality of Access to Digital and Internet Technology in Developing Countries

In looking at the opportunity presented by digital and internet content we should not lose sight of the existing difficulties of access to ICTs in developing countries. Developing countries still lag significantly behind developed countries and that gap, depending on the measure, may be growing.[7] Nevertheless, some developing countries show significant growth in ICT access, although much of that growth is attributable to Brazil, China and India.[8] Concerted public investment in ICT infrastructure is a necessary precondition for developing countries to take advantage of digital and internet content.[9] There is a strong urban rural divide in most developing countries that leaves the majority of people without access to phone lines, satellite or mobile telephones. This is even more extreme in cases of computers, photocopiers and printing presses.

However, the so-called Digital Divide has two components that should not be conflated: access to systems and access to content. This paper focuses on access to content and is meant to be viewed in conjunction with plans and policies on increasing access to ICTs. Nevertheless, while it is true that hardware and internet access is very limited in developing countries, there already exist several mechanisms through which individuals and communities in developing countries would be able to take advantage of these opportunities immediately. In this, one has to disagree with those who argue that loosening copyright restrictions in the near term will not significantly increase access.[10]

Where exceptions or access are made available, there is a potential for explosive distribution, especially in tertiary institutions and libraries in developing countries. The first thing to realize is that such access techniques are hybrids of digital and analog technologies, therefore requiring that only one person in a sharing community have a computer and access to the internet. Coupled with analog copying and reprographic technologies such as photocopiers, as well as public communication devices such as radio, televisions and mobile phones, this makes information potentially widely accessible and easily distributable.[11]

For example, where individuals have computers but few can access the internet, one person or institution with a CD-burner can distribute many copies of the same document by burning a CD and mailing or sending copies to others. Paper copies can be made where an individual or institution has access to a photocopier.[12]

The content element of the digital divide is also crucial. There is a serious shortage of culturally relevant and appropriate material for developing country individuals on the internet. Digital and Internet Content is primarily biased to the major generators and users who are located in developed countries. This is not to say that creative content does not exist in developing countries: it may in fact be a major comparative advantage. However, the lack of digitization capacity may limit content even for those countries that provide extensive access to the internet.

These activities suggest that copyright exceptions and limitations and access rules for developing countries must take into account not just distribution and copying rules over the internet, but also analog copying and distribution if cultural goods are to contribute to real growth in developing countries. The entire distribution chain must be taken into account.[13] Story points out that what is crucial in a digital and internet world is the material that is easily and freely accessible on the internet.[14] Where the global public domain that is the internet is shrunk by

practices and rule-making in developed countries, developing countries suffer accordingly. What is an annoyance to developed country users becomes a much more serious matter for individuals in developing countries, especially those with limited internet access. When the entire distribution chain of digital and internet content is taken into account it is clear that increased restrictions on access to digital and internet content in developed countries narrow the possibilities for access in developing countries.

VIII.3 The Conditions, Freedoms and Rights necessary for Developing Countries to take Advantage of Digital and Internet Content

Whatever policy changes developing countries make, their impact will be felt very strongly in two areas: educational access and the development of indigenous content industries. How might digital and internet content affect these particular areas and what does this suggest about the rights and freedoms necessary to ensure that access and development are best served?

Educational Access

The opportunities for developing countries are significant in the education sector (at all levels), literacy and library sectors, but especially for the tertiary educational sector (universities, technical colleges, professional training colleges) as a driver of access and distribution of digital and internet content.[15] In developing countries one of the most significant drivers of better educational outcomes is access to textbooks and other instructional materials.[16]

In developing countries tertiary institutions can play a special role in enabling wider access to digital and internet content. It is at the tertiary level that educational institutions are

most likely to have access to computers, as well as access to the internet.[17] The tertiary sector, especially national universities, is also the area that tends to have the greatest interface with the publishing industries that disseminate educational materials such as books and journals.[18] They are also core centres for the production of research and educational materials for their country or region.[19] Tertiary institutions may also form the core of mass education and literacy systems, both as production centres and as distribution centres. Askerud points to several problems with access to textbooks and educational materials identifying distribution as the primary bottleneck.[20] While not a panacea, the use of digital and internet content and ICTs may help to reduce some of the problems that Askerud identifies such as: insufficient storage and transport facilities; lack of private funds to purchase books; absence of publishing enterprises in areas with widespread illiteracy; and the absence of conservation practices for books.[21] Distribution is a significant element of textbook cost and the easier and less difficult distribution is, the cheaper the cost of educational materials. For example, the distribution of digital books does not suffer from loss or damage issues, delivery of replacements is instantaneous, and warehousing is unnecessary. Instead of having distribution as a recurring cost, it can essentially be a one-time cost. Of course at present, distribution costs are largely due to failure of infrastructure, but in the context of a larger ICT and hardware policy, it suggests that delivery of material through digital and internet means should be a priority policy area.

The limitations of copyright especially for hardcopy materials have been especially onerous for the tertiary sectors, in which institutions have had to pay exorbitant fees for such things as photocopying of articles from journals in the library (even those written by faculty at the same institution).[22] Students have to pay for texts whose cost may amount to a significant portion of the annual earnings of an average family,[23] thus ensuring that tertiary education remains the province of the wealthy elites.

Distance learning is also an area where the benefits of internet and digital content are unmistakeable. However, even distance learning courses have encountered problems of accessing educational materials. Copy/South points out the failures of some courses that required students to buy almost US $800 in textbooks.[24] The lack of access in public libraries is also a problem due to the cost of books. Where electronic access is the primary means of accessing texts, the digitization of materials is a significant hurdle for institutions which have to pay for permission to do so.[25] Examples of such programmes at the tertiary level in developing countries are:

- Virtual University of Pakistan
- Indira Ghandi Open University (India)
- Monterrey Virtual University (Latin America and Caribbean).

However, cost per student remains a significant barrier to expanding access through such programmes.[26] In addition, analog formats will remain a crucial element of the content distribution chain. The use of videocassettes, tapes and radio still form an important part of the delivery of content in distance education programmes in developing countries.[27] Nevertheless the potential for digital and internet content delivery is undeniable and has been supported by international organizations such as UNESCO.[28]

The library sector, especially as a crucial element of national education strategies, is also poised to benefit from digital and internet content, but only if the right policies are in place. At the moment, the failure to properly apply library exceptions means that libraries cannot digitize and share digital copies of their works with other libraries or with users without paying exorbitant fees. While we should not presume that all education sectors in developing countries should source all their material from the developed world, neither should developing countries be

forced to re-invent the wheel. One of the earliest areas of action and, the one most likely to have the largest impact, is enabling access from developing countries to the existing electronic resources, repositories and libraries of developed country institutions. Simple email connectivity combined with an ability to search for these resources can sometimes be enough. For example, in 1991 the University of Zambia medical library established a relationship with the University of Florida medical library, which would email requested texts and information resources on request. The impact on the quality of research and work at the University of Zambia was immediate.[29]

Education has traditionally been an arena where it has been agreed that copyright holders in general, should have no right to expect significant profits. The education exception enshrined in the Berne Convention and in almost all national laws is evidence of this. This principle should be maintained and extended to digital and internet content ensuring that it is possible to take advantage of the opportunity presented.

Development of Indigenous Content Industries

One of the major limits for the expansion of developing country cultural industries has been a bottleneck in distribution and marketing especially with respect to international markets. The other has been little or no purchasing power in the domestic market. With access to digitization and internet technologies, developing country entrepreneurs can now place their cultural goods in the global market more easily. With respect to the domestic market, lowered production costs may serve to decrease the barriers to entry for many producers and artists, although within the limits of access to hardware and software. Such opportunities are tempered by several issues of relevance to developing country economies:

- unpredictable economic cycles for content industries in developing countries;

- lack of enforcement of artists' rights against producers and publishers (a good example is the music industry in large parts of Africa);
- non-existent or non-operating reimbursement systems for indigenous artists;
- poor access to finance and the high cost of raw materials and equipment.

These are structural problems to which digital and internet technology does not necessarily provide all the answers. However, it is clear that increased copyright protection does not present a solution either, and may in fact worsen it by entrenching existing inequalities between creators and producer/distributors. The problem of copyright for creators in developing countries is one of enforcement of the very simple and basic rules against massive direct commercial copying. In this regard, the lack of collecting societies in developing countries has been pointed to as a serious gap in the copyright system.[30] Better protection of artists against commercial actors is important, but recent developments in the expansion of collecting societies suggest that these are not a panacea and that they can behave in ways that restrict access. For example, some commentators have found that because they are easy targets, educational institutions are the first targets of collecting societies rather than commercial actors who may be better able to defend themselves or are more difficult to find.[31] Developing country artists may be better protected by the enforcement of existing prohibitions against literal commercial copying, rather than taking on further enforcement and protection obligations. In addition, where artists are concerned, it is important to keep in mind that royalties form a small part of an artist's income, even in the major developed country markets.[32] This suggests that the focus of efforts in increasing artists' incomes should not be the collecting societies or the copyright system, but the inequality of negotiating power between artists and producers/publishers.[33]

The benefits to developing countries of the enforcement rather than the expanded protection approach are more evident when one takes into account the fact that from a global perspective, the direct rewards from increased copyright protection are largely directed to the publishing, entertainment and software industries in Europe and North America.[34] Firstly, this is because the subject matter of new rights, such as software, databases, broadcasts, webcasts, large commercial brands, technological protection measures, are all in fields dominated by developed country commercial interests. Thus, for each monetary unit spent by a developing country on enforcement of such subject matter, a larger proportion of the return on investment goes to rights-holders in developed countries. By focusing on direct and literal commercial infringement of basic copyright, developing countries may better serve their domestic artists and industries. Due regard should, however, be given to ensuring that such enforcement takes into account employment effects. As Rens, Prabhala and Kawooya have argued,[35] the informal economy forms a crucial part of both authorized and unauthorized distribution systems and enforcement should not destroy viable and necessary distribution networks that may address largely under-served markets.

The indigenous industries most directly affected by digital and internet content are the publishing and music industries. It is important to outline the role that digital and internet content may play in these if the basic outline of rights and freedoms necessary to ensure access and development is to be complete.

a. The Publishing Industry

With respect to access issues, especially education access, in developing countries, the industry of major concern is the publishing industry, which has been a vocal opponent of increased exceptions and limitations and has generally operated with low profit margins. It has depended on the educational

market, which can make up to 90% of the publishing market,[36] for most of its sales and profit growth.

While encouraging local publishing industries should be an important concern, the furthering of education and literacy may do more to encourage private consumption of the cultural goods produced by such publishers by increasing the size of the market available. The argument that strong copyright is necessary to protect local publishing industries and cultural producers must be considered in the context of actually increasing markets for such publishers, rather than strangling attempts to increase educational, library and literacy access.

Access to text repositories and to free e-Books and texts online may prove a boon for developing country publishers of educational texts, enabling new collections of materials to be published and by ensuring that even the smallest publisher can access a fully scanned and digitized text from which to make reprographic texts. The costs of accessing galleys or of typing up or scanning a text themselves are significantly reduced. For example, the entire works of Shakespeare (some of which are required texts in Anglophone developing country education systems) are available on the website of Project Gutenberg. Developing country industries can compete and produce cheap, versions of these texts which they may be able to sell at a cost significantly lower than that offered by importers. This may introduce long-overdue competition into such industries in developing countries, where usually the market has been captured by two or three publishers who are subsidiaries of developed country publishers.[37] Access to digital and internet content can only serve to free domestic publishers from dependence on developed country publishers for their source material and allow them to both publish material produced indigenously and material produced in other countries.

b. The Music Industry

While digital and internet technologies pose a challenge to the major record labels and producers, there is an equivalent opportunity for artists to regain control of their materials and to have access to global markets and distribution channels.[38] The structure of international music markets only serves to illustrate the importance of global distribution. Few states have sufficient domestic markets to support income for artists and producers. Even in these markets, the majority of sales for most major labels come from the global market. For developing countries, where the average income presents too small a market for most producers or artists,[39] access to the global market is essential. As Menell notes, there are many international online outlets such as Garageband.com[40] and theorchard.com[41] that provide distribution, and marketing services, as well as retail services. This will significantly lower the barriers to distribution and market access thus encouraging greater diversity and distribution of music. Digital technologies also makes it easier to record and produce music, bringing the production process closer to the artist, and therefore less dependent on specific producers with capital.[42] This may work to reduce the imbalance of power that generally exists in developing countries (and in developed countries) between artist/creators, on the one hand, and producers, on the other.[43] Where artists bypass the production of CDs and limit their distribution to purely online sales and to performance income revenues it is possible to bypass some of the major production costs of producing a record.[44] This also includes some of the major costs of reaching and marketing to a global audience.[45] In addition, many of the technologies that are used in production are available in FLOSS form, meaning that there is no cost for purchase or use beyond the human skills needed to learn how to use them.[46] In developing countries this is more likely to lead to the proliferation of smaller producers[47] as well as self-produced artists who will view such producers as service providers rather than owners. While the major studios have expressed concerns about selling music online without copying protections, more and more artists and producers have found that it is possible to

make a viable living by online sales of music without technological protection measures. The approach has even been endorsed by Steve Jobs, CEO of Apple, the owner of the iPod and iTunes store brands that sell copy protected songs. Jobs notes rightly that such protections do not prevent unauthorized copying by those determined to do so, and limit the ability of artists to reach wider audiences through word of mouth and other viral forms of marketing.[48]

Digital distribution and marketing may also lower the transaction costs of collecting royalties and licence fees.[49] Sites such as theorchard.com provide such services as part of their package, thus eliminating the middleman of collection and licensing agencies. The possibility of direct access and control, or even automated systems for licensing mean that the present landscape of music copyright, which is oriented towards collection agencies and major labels, will shift towards providing more direct remuneration to artists.[50] As sites like theorchard.com proliferate, they will compete for artists to join their catalogues on price and services, without becoming copyright owners themselves. Direct "artist-to-consumer" transactions become increasingly possible.[51] The success of such a system, as Okediji points out, is also reliant on the ability to turn such online payments into money in the bank, which may still pose problems in developing countries whose banking systems may not yet be set up to receive electronic transfers or electronic deposits.[52] However, the use of internet banks based in the North may also serve to enable such transactions where local institutions lack the resources to do so.

In addition to music, the rich tradition of oral history and storytelling in developing countries may find a larger audience and access through digital production and distribution. While music appears to be the easiest point of entry for developing countries, any art form that is dominant in a developing country has the power to transform itself through new production and distribution methods.

VIII.4 The Rights and Freedoms Necessary to Ensure Access and Development

The potential for growth in access and development through the new technologies is evident. The previous section suggested the outlines of what is needed for these to be fully realized. Technology always operates within a legal and social context that either enables its use or restricts it. The conditions necessary for developing countries to begin to take advantage of digital and internet content include ensuring:

- the right to free access and use of digital and internet content for: research or educational purposes; library and other non-profit informational purposes (such as museums); the right to import from or export to other countries for the same purposes;
- the right to reproduce, distribute, broadcast, perform, communicate to the public, lend (all without payment) for research, scientific, educational, library and other informational non-profit purposes (such as museums); the right to import from or export to other countries for the same purposes;
- the right to quote (without payment) reasonable portions of works;
- the right to access and use any non-copyright material regardless of format, structure or compilation of which it comprises a part;
- the right to impose compulsory licences for government or development purposes either for free, or at a price commensurate with local cost levels, uses and needs;
- the right of creators of cultural goods in developing countries to distribute their work through digital and

> internet channels, while ensuring that they are sufficiently rewarded for the creation of their works.

In particular, certain copyright and related policy options have to be in place:

a. Strong and robust education and library exceptions

For educational institutions to continue to fulfil and expand the role that they must play in development policy, they must be free to communicate information to their students. A broad exception for education must cover all educational uses of copyright and related rights materials. It must cover multiple analog copies of texts for use by students. It must enable students to make photocopies themselves of any material held by the school library for their private and educational use. All institutions must be able to make such copies electronically available to all students at the school, through a school network and from any workstation or computer, without further payments by the institution or the school.

A strong library exception is also crucial, especially for libraries operating within educational institutions. They must be enabled to make copies of the contents of their institutions for any bona fide member (student, teacher) of the institution. They must be able to digitize the contents of their library and share it with any bona fide member of their institution, as well as with other libraries serving the same function. They must be able to transfer their material into any format for archival and lending purposes.

While these exceptions may at first seem to pose a threat to developing country publishers of educational texts, such concerns should not create a situation where commercial actors are allowed to place an unnecessary tax on education. Copyright is not the only, or even the most viable method for the production of educational textbooks. In the alternative for example, secondary

school texts can be created on commission by the government, and required reading texts can be allowed to be accessed for free under the education exception. Whichever publisher wins the tender will have a head start but the text once created would be available to all other publishers to produce, ensuring that there is sufficient competition on price. This may increase the number of publishers rather than reduce them. Such a process seems far more preferable than one where one publisher has an almost unlimited monopoly on a text that is used in a national school system. With respect to tertiary institutions, the role of textbooks is also clear, but these are largely written by individuals who already have employment and are a way of disseminating knowledge and gaining status. Profits for the writer are not the primary driver of such production. In such a situation, developing countries may wish to either commission the development of free textbooks by their own professors and scholars, or to construct them by using free access under the education exception to create compilation texts. Especially in the context of tertiary education (e.g. science) developing countries should not re-invent the wheel if such texts are already available on the market and can be used for educational purposes. This is especially critical if such texts are available electronically. In such a case, protection would only require that the text be protected from commercial uses by other publishers but, that copies of the whole text or portion thereof by students are legitimate exercises of the education exception.

b. A robust research and study exception

A robust research and study exception is crucial to enable students to copy texts themselves, as far as the text has been legally accessed either at a library or through purchase. Countries should ensure that their domestic legislations are clear so as to allow students to photocopy portions or the whole for their own research and study purposes to the extent that they do not produce and distribute to others. In such cases, research comprises materials necessary for carrying out school assignments, papers or other education related tasks. Thus, a secondary school student

doing a paper on Shakespeare would be allowed to make a copy of a text or portions of text (a critique perhaps), or copy of a film, that they would use and study as a basis for writing their papers. This exception would apply therefore, not just to post-graduate students but, to all students in pursuit of their studies, to the extent that they did not engage in commercial sale or distribution of copies that they have made. This exception is crucial to enabling students and scholars to carry out research and study without the fear of having to pay royalties on products that they have legally accessed, either through purchase, library lending, or otherwise. It will assist students and schools by preventing undue litigations and pressure from right-holders.

In addition, the research and study exception must also be embedded in a robust definition of 'first sale' so that individuals use their ownership material effectively. Here, the study and research exception overlaps with the traditional private use exception. The fear of literal copying and distribution should not encroach on the right of individuals to own what they have properly bought and paid for. This clearly applies a concept of ownership in the digital arena, such that an individual can transfer copies from one device to another, from their own hard drive to their work station, to a memory disk, onto paper, online storage, email and many other manipulations of such material for personal and study purposes. Although the principles are well established, it is crucial to establish that the exercise of rights conferred by copyright do not infringe upon private uses, uses under research and study and all other exemptions. Owners cannot control the uses of their material and force individuals or institutions to pay multiple times for material that they already own.

This issue of ownership is particularly important for institutions that make such purchases with the understanding that they will use such material for their institutional purposes. This would include archiving, and copies requested by professors or students, either analog or digital. To suggest that each institution buy copies for each individual member is to insist on

disproportionate profit for the copyright holder. Some of the institutions, such as libraries, by their very nature acquire materials for the purpose of dissemination and wider use. The concept of ownership, especially by educational institutions, must cover normal institutional uses of such material if educational institutions are to carry out their educational mission.

c. Does the Three Step test impose limitations on the scope of exceptions?

Least developed countries have until July 2013 to implement the TRIPS agreement (except for articles 3, 4 and 5).[53] The WCT and WPPT, and the proposed Broadcasting Treaty make no such provisions for transitional periods, although these agreements are voluntary to enter into.

However, the WCT and WPPT allow for the formulation of new exceptions and state that the three-step test neither limits nor expands the scope of exceptions under the Berne Convention. As other commentators have noted[54] this is a crucial re-balancing as it establishes that domestic legislation is free to apply existing exceptions and create new ones, provided that they are consistent with Berne. At least as far as digital and internet content is concerned the agreed statements cabin the three step test and place it in proper perspective as an open-ended enabling tool for crafting exceptions without actually pre-determining the scope of those exceptions beyond the Berne Convention.

In addition, existing decisions on the scope of the three-step test still leave the issue open for developing countries to develop practices of their own with respect to the standard provided by the test.[55] The standard was analyzed in the US Copyright case, in which the EU brought a challenge against Section 110(5) of the US Copyright Act.[56] The decision's analysis of 'special cases' 'normal exploitation' does not function as a precedent for new subject matter and was applied to a situation with a significant commercial and profit-making setting.

In particular it has not addressed the normative power and role of education as an exception to copyright. The decision did not negate other existing practice in the United States and the EU on exceptions and limitations, which provides some broad and useful examples. It is especially important to note that, as a matter of international law, the post-TRIPS rights and subject matter embodied in the WCT and WPPT are not covered by the panel's interpretation of the three-step test under the TRIPS Agreement.

Developing countries should proceed to interpret and apply the test in their own legislation taking into account the entire scope of available state practice under the Berne Convention (including the extensive practice of European Union countries prior to and including the EU Copyright Directive) as well as taking the opportunity to establish new limitations and exceptions suitable to digital and internet content.[57] In addition, a study conducted by WIPO also points out that normative considerations as to the markets from which a rights-holder can legitimately expect to profit are a core part of the examination of the three-step test, including such considerations as education and free speech.[58]

VIII.5 The Way Forward for Developing Countries

It is important to realize that innovation and development, especially with respect to developing indigenous industries is best served by copyright that is strong enough to prevent direct and literal copying for commercial purposes, but that is limited so as to enable sequential and interactive production of new goods and increased competition. In ensuring this, developing countries will also need to address the lack of access to educational materials for students and the majority of their population. With this in mind, the following agenda items are proposed for the developing countries as a way to begin to set the terms of the debate for themselves. They emphasise ways to retain and further access

while simultaneously enabling development and growth for indigenous industries.

Immediate Actions

a. Do not sign TRIPS-Plus, WCT and WPPT.

Developing countries should not sign such terms in bilateral treaties with the United States or the EU, even where they contain language similar to the agreed statements at the WCT and WPPT and they contain exceptions as allowed under Berne, TRIPS and general fair use principles. The implementation of such provisions in the United States and the EU has proven to be controversial and have not been shown to achieve their goals. Developing countries should not sign on to unproven and dangerous policies.

b. Those countries that have not signed the WCT and the WPPT should refrain from signing them. Those who have should reconsider their participation in the treaties.

Where they see a need for protection of the rights of their performers, such protection may be better limited to those provisions of the WPPT that they deem necessary and under strict domestic law and policy making. Those countries that have ratified the WCT and/or the WPPT should give serious thought to withdrawing their participation from the treaties.

c. Maintain and fully implement existing exceptions and limitations.

Access to digital and internet content for developing countries can only be built on a regime that ensures access to analog content. Developing countries must look to models that create the largest amount of freedom for analog content. This entails eschewing traditional models provided by technical assistance programmes from developed countries or WIPO and looking instead to alternative models such as the Tunis Model Law on

Copyright for Developing Countries[59] to create more appropriate model laws. Developing countries should begin the discussion as to how it should be updated to accommodate developments since it was first written.

A priority should be the establishment of the widest and most useful education, library and personal use exceptions to enable educational access for teachers, institutions and students. While it is not within the remit of this paper to fully flesh out such exceptions, developing countries should focus on the production of further work in this area.

Developing countries should insist on the application and inclusion of existing limitations and exceptions in every international agreement, ensuring that they are not interpreted in any way as giving up their sovereign right to determine applicable limitations and exceptions for themselves.

d. Focus copyright enforcement on the protection of domestic artists.

Many enforcement programmes focus on border controls, reflecting the interest to respond to political demands from rich countries to the detriment of developing a holistic enforcement strategy that reflects balance in the IP system. Developing countries should place an emphasis on ensuring the remuneration of domestic creators/artists by domestic producers and other content industry intermediaries. The resources of developing countries are better spent supporting domestic artists than enforcing border controls for goods from developed countries.

e. Limit software copyright protection only to the non-functional aspects of software. Do not provide patent protection.

The example of the United States may be appropriate to follow; where courts for a long time have refused to extend copyright to those aspects of software that are the inevitable result of the

functional requirements. The requirement to protect software as a literary work does not require that such protection be of equal strength as that for original literature.

The protection of object code as required under TRIPS must ensure that de-compilation of the object code is allowed. This is important to make the object code human-readable and allow others to determine its functionality, and/or reverse engineer it.

f. Do not extend protection to non-original databases.

There is little evidence to suggest that non-original databases need protection (as provided for instance, by the European *sui generis* regime) to provide an incentive for their creation, while it is clear that such protection would only serve to remove knowledge from the public domain. Even where copyright protection of original databases is required under TRIPS, such protection should impose a high burden of originality. Copyright protection should only be extended to the structure, not the contents, of the database.

Next Steps

a. Negotiate Special Provisions for Educational Access for Developing Countries.

Building on the tradition and precedent of the Berne Appendix, developing countries must insist that the new technologies require a new instrument or set of provisions to ensure educational access for developing countries. While exceptions and limitations are good beginnings and stopgaps, bulk access to materials is really what is needed for developing countries. In this context a new deal for educational access is necessary. However, as Okediji warns, developing countries should beware of any suggestion that the Berne Appendix can be the only basis for bulk access to digital and internet content.[60]

b. Formulate new and appropriate limitations for digital and internet content that can be effectively utilised.

Developing countries should begin the process of formulating limitations and exceptions for digital and internet content in their domestic law. In this, developing countries have some natural allies in civil society groups in developed countries who share many of the same concerns about maintaining access for their own communities. In particular, educational and library institutions share their agenda and have made proposals with respect to access to educational materials that can form the basis of legislation, appropriately tailored, for developing countries. In developing such new exceptions and limitations, developing countries will need to be fully cognizant of the application of the three-step test. In particular, defining what interferes with normal exploitation of the copyright may be difficult in the digital and internet arena. A good beginning would address the following issues in the near term:

- Limits on technological protection measures– users of TPMs must be required to enable access for educational and other public interest exceptions. In addition, the implementation of anti-circumvention measures for those states that have signed up to such commitments should be limited only to acts of circumvention, not tools, and only if such circumvention is for access to copyrighted material. Although countries may not ratify the WCT and WPPT nor implement TPM measures under domestic legislation, they need clear policy on TPMs due to the fact that the exercise of such rights affects access issues in the rest of the world.

- Exception for Search Engines – developing countries should ensure that their copyright law includes an exception for search engines which search, copy and catalogue the web and the internet, enabling users to

find information easily. Those search engines that are free to use should be exempted from needed authorization to make copies, provided that the copies that they make are used only for searching and, that the links that they establish direct the user to the original content and not to the copies stored on the search engine server.

- Exception for ISPs and P2P and other service providers. Internet service providers should be treated the same as any other telecommunications service provider. Simply because their network may be used for holding or transmitting unauthorized material, ISPs should not be held liable. In the same manner, peer to peer sharing and distribution programmes should not be held liable for the material that individuals place on their systems. In the United States, ISPs have been held indirectly or secondarily liable for the activities of their users. Since such liability issues are free for countries to decide for themselves, developing countries should ensure that copyright liability is only available for direct infringement. If it is necessary to have such indirect liability for copyright infringement, such liability should be limited to those cases where the service provider knowingly and intentionally allows the specific alleged material to be placed or transmitted on its servers.

- Exceptions for Temporary, Incidental and Ephemeral copies. Since almost all computer programmes that manipulate and transmit information also make incidental copies, it is necessary to ensure that such copies are treated as exceptions and do not require a tax on every single action of a computer programme. This is especially important for web browsing. However, this is only a concern where the right of reproduction is considered to cover temporary copies.

Fixation requirements may also be used to exclude temporary copies from protection by requiring fixation for more than a temporary period.

- No enforcement of unfair copyright licensing contracts. Developing countries should not recognise or enforce contracts that have terms that restrict or contract out of exceptions or fair use terms. As some commentators have rightly argued, the entire point of such exceptions and limitations is the public interest, and private contracts should not be allowed to contract around the public interest.[61] This is especially important in the area of software. They should be treated as null and void where they conflict with the public interest or where they render public interest exceptions and limitations inoperable. TRIPS makes no requirements to restrict the interpretation and operation of contract law.

Developing countries must insist that new treaties, especially those addressing new subject matter, also include appropriately tailored exceptions and limitations. A prime example is the proposed WIPO Broadcasting Treaty which only includes provision for exceptions and limitations because of the urging and demands of developing countries.

c. Adopt and Support Free/Libre/Open Source approaches to software and other content.

As a general rule, developing countries have little to gain from proprietary regimes for knowledge basically produced in or otherwise controlled by actors in the developed countries. Especially in the field of digital and internet content, developing countries remain content users rather than providers. In such a situation where there is a need to both ensure access and to develop indigenous capacity, open source models of production and dissemination may be most appropriate. The most attractive

feature of such an approach may be that it requires little or no additional legislation or international agreement to implement. Developing country governments should favour Open Source and Open Content approaches, devoting their resources to:

- the enforcement and use of open source licences;
- the use of open source software;
- the encouragement of open source approaches to the production and dissemination of knowledge in the scientific and education arena by leveraging government funding and not allowing the privatization and exclusive appropriation of materials produced with such funding.

VIII.6 Conclusion

It is important to reiterate that these recommendations must be seen in the light of a broader ICT policy that emphasizes access to hardware, in line with an access to knowledge policy. As an element of industrial and economic policy, these policies become part of a larger strategy. However, as this paper has emphasized, the area of earliest harvest for such policies both for ICTs and access to knowledge is in the education sector. An educated and skilled populace with access to information is a prerequisite for development and will be even more necessary in the future global economy of knowledge.

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Endnotes

1. For a strong statement of the values behind the concept of intellectual property see RL Gana, 'Has Creativity Died in the Third World, Implications of the Internationalization of Intellectual Property' (1995) 24 DENV. J. INT'L & POL'Y 109.
2. e.g. The Agreement on Trade-Related Aspects of Intellectual Property
3. RL Gana 'Has Creativity Died in the Third World, Implications of the Internationalization of Intellectual Property' (1995) 24 DENV. J. INT'L & POL'Y 109, 120.
4. RL Gana 'The Myth of Development, the Progress of Rights: Human Rights to Intellectual Property and Development' (1996) 18 Law & Policy No. 3 & 4, 331
5. A Story 'Study on Intellectual Property Rights, the Internet, and Copyright' (Study Paper 5) in UK Commission on Intellectual Property Rights *Final Report of the UK Commission on Intellectual Property Rights* (2002) at 12. (Available at http://www.iprcommission.org/papers/pdfs/study_papers/sp5_story_study.pdf last visited February 13, 2007)
6. P Menell 'Envisioning Copyright Law's Digital Future' (2002) UC Berkeley School of Law Public Law and Legal Theory Research Paper Research Paper Series No. 95, at 59 (Available at http://www.nyls.edu/pdfs/v46n1-2p63-200.pdf last visited February 13, 2007)
7. UNCTAD "Development and Globalization: Facts and Figures" UNCTAD 2004, at 96. (Available at

http://www.unctad.org/templates/webflyer.asp?docid=4848&intItemID=2364&lang=1 last visited February 13, 2007)

8. UNCTAD "E-Commerce and Development Report" UNCTAD 2004, at 2. Available at http://www.unctad.org/en/docs/ecdr2004_en.pdf last visited February 13, 2007)

9. See the example of South Africa in D Cogburn & C Adeya "Prospects for the Digital Economy in South Africa: Technology, People, Policy and Strategies" UNU/INTECH Discussion Paper 2002, at 22. (Available at http://ideas.repec.org/p/dgr/unuint/200202.html)

10. A Story 'Study on Intellectual Property Rights, the Internet, and Copyright' in UK Commission on Intellectual Property Rights *Final Report of the UK Commission on Intellectual Property Rights* (2002) at 34. (Available at http://www.iprcommission.org/papers/pdfs/study_papers/sp5_story_study.pdf last visited February 13, 2007)

11. One area that presents an important opportunity is the use of radio, both internet and regular to transmit books and materials through, books on tape or books on CD.

12. For an example of this process in action see the example of Uganda in A Rens, A Prabhala, D Kawooya 'Intellectual Property, Education, and Access to Knowledge in Southern Africa' (2006) ICTSD Regional Research Paper Southern and Eastern Africa, at 30. (available at http://www.iprsonline.org/unctadictsd/docs/06%2005%2031%20tralac%20amended-pdf.pdf last visited February 13, 2007)

13. *See* Story at 47, while he focuses on the primacy of printed materials, I suggest that what matters is the nexus between digital and printed materials

14. Id. at 35.

15. UNCTAD "E-Commerce and Development Report" UNCTAD 2004, 95.

16. P Askerud "The Distribution of Educational Materials: Problems and Issues" UNESCO 1997, at 3. (Available at http://unesdoc.unesco.org/images/0010/001090/109092E.pdf last visited February 13, 2007)

17. B Oyelaran-Oyeyinka and C Adeya "Internet Access in Africa: An Empirical Exploration" UNU/INTECH Discussion Paper 2002-5, at 31 (Available at http://www.intech.unu.edu/publications/discussion-papers/2002-5.pdf last visited February 13, 2007) and UNCTAD "E-Commerce and Development Report" UNCTAD 2004, 103.

18. Askerud notes that the publishing industry in developing countries depends on the educational sector for up to 95% of its income. Askerud at 3.

19. UNCTAD "E-Commerce and Development Report" UNCTAD 2004, at 99. (Available at http://www.unctad.org/en/docs/ecdr2004_en.pdf last visited February 13, 2007)

20. Askerud at 4.

21. P Askerud "The Distribution of Educational Materials: Problems and Issues" UNESCO 1997, at 4. (Available at http://unesdoc.unesco.org/images/0010/001090/109092E.pdf last visited February 13, 2007)

22. Discussion with Prof. Julien Hoffman, University of Cape Town, discussing the role of collection agencies in the tertiary education sector in South Africa.

23. A Story et al (eds.) "The Copy/South Dossier: Issues in the economics, politics and ideology of copyright in the global South" Copy/South Research Group May 2006, at 96. (Available at www.copysouth.org).

24. Story, A., et al (eds.) at 96.
25. Id.
26. UNCTAD "E-Commerce and Development Report" UNCTAD 2004, at 112. (Available at http://www.unctad.org/en/docs/ecdr2004_en.pdf last visited February 13, 2007)
27. Id. at 113.
28. UNESCO "Open and Distance Learning: Trends, Policy and Strategy Considerations." UNESCO 2002 (available at http://unesdoc.unesco.org/images/0012/001284/128463e.pdf last visited February 13, 2007)
29. TW Oshikoya & MN Hussein "Information Technology and the Challenge of Economic Development in Africa" African Development Bank Economic Research Paper No. 36, 2004, at 8 (available at http://www.afdb.org/pls/portal/docs/PAGE/ADB_ADMIN_PG/DOCUMENTS/ECONOMICSANDRESEARCH/ERP-36.PDF last visited February 13, 2007)
30. B Andersen et al "Copyrights, Competition and Development: The Case of the Music Industry" Discussion Paper No. 145 January 2000 UNCTAD, at 23. (Available at http://www.unctad.org/en/docs/dp_145.en.pdf last visited February 13, 2007)
31. A Story et al (eds.) "The Copy/South Dossier: Issues in the economics, politics and ideology of copyright in the global South" Copy/South Research Group May 2006, at 33. (Available at www.copysouth.org).
32. Id. at 24.
33. See UNCTAD "E-Commerce and Development Report" UNCTAD 2004, at 86. (Available at http://www.unctad.org/en/docs/ecdr2004_en.pdf last visited February 13, 2007)

34. A Story 'Study on Intellectual Property Rights, the Internet, and Copyright' (Study Paper 5) in UK Commission on Intellectual Property Rights *Final Report of the UK Commission on Intellectual Property Rights* (2002) at 11 (Available at http://www.iprcommission.org/papers/pdfs/study_papers/sp5_story_study.pdf last visited February 13, 2007) citing IMF statistics.

35. A Rens, A Prabhala, D Kawooya 'Intellectual Property, Education, and Access to Knowledge in Southern Africa' (2006) ICTSD Regional Research Paper Southern and Eastern Africa (available at http://www.iprsonline.org/unctadictsd/docs/06%2005%2031%20tralac%20amended-pdf.pdf)

36. A Story, et al (eds) *The Copy/South Dossier : Issues in the economics, politics, and ideology of copyright in the global South* (Copy/South Research Group 2006) at 40. (Available at http://www.copysouth.org)

37. See e.g. A Rens, A Prabhala, D Kawooya 'Intellectual Property, Education, and Access to Knowledge in Southern Africa' (2006) ICTSD Regional Research Paper Southern and Eastern Africa, at 31. (Available at http://www.iprsonline.org/unctadictsd/docs/06%2005%2031%20tralac%20amended-pdf.pdf last visited February 13, 2007)

38. See Andersen, B. et al "Copyrights, Competition and Development: The Case Of The Music Industry" Discussion Paper No. 145 January 2000 UNCTAD, at 9, arguing that developing country artists may be able to take advantage of new technologies more easily as new entrants. (Available at http://www.unctad.org/en/docs/dp_145.en.pdf last visited February 13, 2007)

39. Id.

40. P Menell 'Envisioning Copyright Law's Digital Future'

(2002) UC Berkeley School of Law Public Law and Legal Theory Research Paper Research Paper Series No. 95, at 78. (Available at http://www.nyls.edu/pdfs/v46n1-2p63-200.pdf last visited February 13, 2007)

41. For other examples see UNCTAD "E-Commerce and Development Report" UNCTAD 2004, at 85. (Available at http://www.unctad.org/en/docs/ecdr2004_en.pdf last visited February 13, 2007)

42. The advent of music synthesizers and the Musical Instrument Digital Interface (MIDI) standard system allowed greater independence for artists to produce high quality, complex, multi-track digital recordings. See UNCTAD "E-Commerce and Development Report" UNCTAD 2004, at 71.

43. UNCTAD "E-Commerce and Development Report" UNCTAD 2004, 67.

44. Id. at 69.

45. Id. at 70.

46. For a list of these see Id. at 79.

47. Id. at 66.

48. S Jobs "Thoughts on Music" February 6, 2007 available at http://www.apple.com/hotnews/thoughtsonmusic/ last visited February 13, 2007)

49. R Okediji 'Development in the Information Age: Issues in the Regulation of Intellectual Property Rights, Computer Software and Electronic Commerce' (ICTSD Geneva 2005) at 29 (available at http://www.iprsonline.org/unctadictsd/docs/CS_Okediji.pdf last visited February 13, 2007)

50. See Andersen, B. et al "Copyrights, Competition and Development: The Case Of The Music Industry" Discussion Paper No. 145 January 2000 UNCTAD, at 9. (Available at

http://www.unctad.org/en/docs/dp_145.en.pdf last visited February 13, 2007)

51. For an extreme example of this see www.sheeba.ca the website and store of Jane Siberry a Canadian musician who left her record label and is selling her material directly to consumers, at whatever price consumers are willing to pay. The site is unusual in the payment aspects but is structured to profit from direct payments and the creation of mailing lists and a direct community to whom products can be marketed. However, it should be noted that she built up a following as an artist before she ventured along this path.

52. R Okediji 'Development in the Information Age: Issues in the Regulation of Intellectual Property Rights, Computer Software and Electronic Commerce' (ICTSD Geneva 2005) at 30. (Available at http://www.iprsonline.org/unctadictsd/docs/CS_Okediji.pdf last visited February 13, 2007)

53. EXTENSION OF THE TRANSITION PERIOD UNDER ARTICLE 66.1 FOR LEAST-DEVELOPED COUNTRY MEMBERS, Decision of the Council for TRIPS of 29 November 2005 (30 November 2005) IP/C/40 http://docsonline.wto.org/ (last visited 15 February 2006)

54. P Samuelson, "The U.S. Digital Agenda at WIPO", (1997) 37 VA. J. INT'L L. 369.

55. R Okediji "The International Copyright System: Limitations, Exceptions and Public Interest Considerations for Developing Countries" ICTSD 2005, at 20. (Available at http://www.iprsonline.org/unctadictsd/docs/Okediji_Copyright_2005.pdf last visited February 13, 2007)

56. WTO Panel Report on United States – Section 110(5) of the U.S. Copyright Act, June 15, 2000, WTO Doc. WT/DS160/R, *available* at http://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.

htm#2000.

57. A useful examination of what some of these state practices consist of can be can found in Section III of Ruth Okediji's "The International Copyright System: Limitations, Exceptions and Public Interest Considerations for Developing Countries' ICTSD 2005.

58. S Ricketson "WIPO Study on Limitations and Exceptions Copyright and Related Rights in the Digital Environment" WIPO SCCR/9/7 2003, at 26. (Available at http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=16805 last visited February 13, 2007)

59. UNESCO and WIPO, Tunis Model Law on Copyright for Developing Countries, 1976. (Available in Hard Copy from WIPO, on request.)

60. R Okediji 'Development in the Information Age: Issues in the Regulation of Intellectual Property Rights, Computer Software and Electronic Commerce' (ICTSD Geneva 2005) at 32 (Available at http://www.iprsonline.org/unctadictsd/docs/CS_Okediji.pdf (last visited February 13, 2007).

61. J Cohen 'WIPO Copyright Treaty Implementation in the United States: Will Fair Use Survive?', 21 EUR. INTELL. PROP. REV. 236, 240 (1999). (Available at http://www.law.georgetown.edu/faculty/jec/wipotreaty.pdf last visited February 13, 2007)