The African Journal of Information and Communication

ISSUE 16, 2015

THEMATIC ISSUE:
AFRICAN INTERSECTIONS BETWEEN INTELLECTUAL PROPERTY RIGHTS AND KNOWLEDGE ACCESS

Learning Information Networking Knowledge
(LINK) Centre
Faculty of Humanities
University of the Witwatersrand, Johannesburg

LINK centre
Learning Information Networking Knowledge
Faculty of Humanities
University of the Witwatersrand

ISSN **2077-7205** (Print Version)
ISSN **2077-7213** (Online Version)

The African Journal of Information and Communication (AJIC)
Issue 16, 2015

Learning Information Networking Knowledge (LINK) Centre
Faculty of Humanities, University of the Witwatersrand, Johannesburg

The African Journal of Information and Communication (AJIC) is an academic journal published by the Learning Information Networking Knowledge (LINK) Centre, School of Literature, Language and Media (SLLM), Faculty of Humanities, University of the Witwatersrand (Wits), Johannesburg. Accredited by the South African Department of Higher Education and Training, AJIC is an interdisciplinary, open access journal concerned with Africa's participation in the information society and digital economy. It focuses on information and communication technology (ICT) issues, at global, regional and national levels, which have implications for developing countries in general, and for African regions and countries in particular. It encourages debate on various aspects of ICT policy, regulation, governance, strategy, and implementation, with an interest in the multiple relationships across technology, economy and society. It is intended both as a rigorous academic journal and as a practical medium to inform the continent's actors and decision-makers in government, industry, and civil society, across the diverse areas where information, communications, and new media play a role.

Editorial Advisory Board

The journal is supported by an international editorial board, comprising:

- **Lucienne Abrahams,** University of the Witwatersrand, Johannesburg (South Africa)
- **Prof Hatem Elkadi,** University of Cairo (Egypt)
- **Dr Nagy Hanna,** author and international development strategist (US)
- **Prof Joseph Kizza,** University of Tennessee – Chattanooga (US)
- **Prof Tawana Kupe**, University of the Witwatersrand (South Africa)
- **Dr Gillian Marcelle**, University of the Virgin Islands (US Virgin Islands)
- **Dr Dorothy Okello**, Makerere University (Uganda)
- **Prof Ewan Sutherland**, independent telecommunication policy analyst (Belgium)

Editors

Managing Editor: Prof Tawana Kupe, Deputy Vice-Chancellor, University of the Witwatersrand, Johannesburg, South Africa, tawana.kupe@wits.ac.za

Corresponding Editor: Lucienne Abrahams, Director, LINK Centre, Faculty of Humanities, University of the Witwatersrand, PO Box 601, Wits 2050, Johannesburg, South Africa, luciennesa@gmail.com

Guest Editors for Issue 16:

Dr Chris Armstrong, Visiting Fellow, LINK Centre, Faculty of Humanities, University of the Witwatersrand, Johannesburg, South Africa, c.g.armstrong@gmail.com

Dr Tobias Schonwetter, Director, Intellectual Property Unit (IP Unit), Faculty of Law, University of Cape Town, South Africa, tobias.schonwetter@uct.ac.za

Reviews Editor: Charley Lewis, Senior Lecturer, LINK Centre, Faculty of Humanities, University of the Witwatersrand, Johannesburg, South Africa, charley.lewis@wits.ac.za

Acknowledgements

AJIC gratefully acknowledges the financial and editorial support provided for this thematic issue (Issue 16) by the Intellectual Property Unit (IP Unit), Faculty of Law, University of Cape Town.

Special thanks for refereeing on AJIC Issue 16 to:

- Mark Burke, Visiting Researcher, LINK Centre, University of the Witwatersrand; and Centre for Competition Regulation and Economic Development, University of Johannesburg, South Africa
- Prof Sunelle Geyer, School of Law, University of South Africa
- Eve Gray, Research Associate, Centre for Educational Technology, University of Cape Town, South Africa
- Prof Adam Haupt, Centre for Film and Media Studies, University of Cape Town, South Africa
- Tariq Khokhar, Data Scientist, World Bank, Washington DC, US
- Prof Chidi Oguamanam, Faculty of Law, University of Ottawa, Canada
- Dr Isaac Rutenberg, Centre for Intellectual Property and Information Technology Law (CIPIT), Strathmore University Law School, Nairobi, Kenya

Past issues of *The African Journal of Information and Communication* (and its precursor *The Southern African Journal of Information and Communication*) are available at http://www.wits.ac.za/linkcentre/ajic

Published by the LINK Centre, Faculty of Humanities, University of the Witwatersrand, PO Box 601, Wits 2050, Johannesburg, South Africa.

Produced by Axius Publishing www.axius.co.za

This work is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence: http://creativecommons.org/licenses/by/4.0

ISSN 2077-7205 (Print version)
ISSN 2077-7213 (Online version)

CONTENTS

EDITORIAL NOTE TO *AJIC* ISSUE 16

Lucienne Abrahams
AJIC Corresponding Editor; Director, LINK Centre, School of Literature, Language and Media (SLLM), Faculty of Humanities, University of the Witwatersrand (Wits), Johannesburg

Innovation in technology, in production of goods and services, in business processes, in formal and informal economic settings, in electronic media and audio-visual content, in music – all these and other fields of innovation sit on foundations of knowledge, either private or common, appropriated via various mechanisms, including intellectual property (IP) tools. For almost two decades, the movement for access to knowledge (A2K) has slowly emerged, seeking open approaches to appropriation and IP and giving rise to a range of new phenomena for investigation.

Innovators, researchers and academics, and A2K advocates will gather at the 4th Global Congress on Intellectual Property and the Public Interest in New Delhi from 15 to 17 December 2015, to present their extensive work in this field, with thematic tracks being Access to Medicines (A2M); IP and Development; Openness; and User Rights. African scholars, particularly those from the Open African Innovation Research (Open AIR) network, will participate in the three-day event, introducing research on topics in innovation and IP policy, law, economic and social regulation, and practice. Some of the Global Congress topics are explored in this *AJIC* thematic issue; for example, the topic of plant breeders' rights, and the topic of patenting and access to medicines.

In the age of the Internet, knowledge can flow easily across borders, across industries and economic sectors, and across and among economic and social interest groups. The availability of rich sources of knowledge for productive innovation can enrich the African continent – it is possible. However, policy, law and regulation have not kept pace with the rapid changes in the availability of knowledge. Outdated policy, law and regulation, or practice, may limit the potential for knowledge resources to have full economic or social impact. These and other research problems are explored in the articles and thematic reports in this thematic issue.

Economic development on the African continent is partly dependent on the regularity and impact of innovation, without which agriculture, mining, manufacturing, construction and services will (a) remain moribund and/or (b) continue in a high state of dependence on technology and innovation imports, rather than building on innovations indigenous to the African continent and gradually becoming exporters of innovation. Those countries and economic regions that have experienced an early shift to innovation-based economies have successfully concentrated and harvested knowledge, and embedded that knowledge in publications, inventions, and goods and services (both commercialised and public).

Some African countries are successfully building their innovation capacities; however, the concentrations of harvested, embedded knowledge indigenous to, and appropriated by, the economic regions of the African continent are small relative to concentrations in many other economic regions. For example, the concentrations of locally-developed and locally-controlled knowledge in the Southern African Development Community (SADC) region, or in the North Africa region, are relatively small as compared to those of the European, North American or East Asian economic regions. One of the important dimensions in this knowledge and innovation ecosystem is A2K, increasingly practised in the innovation-based economies. Knowledge, whether in private hands or commonly held, has economic agency. The A2K movement seeks to ensure, inter alia, the existence of balancing mechanisms that mediate between public and private interests in the use of embedded knowledge.

In particular, innovation in the field of electronic communications and the Internet of Things for Africa, and innovations in e-health, e-education, mobile money, cloud computing and the evolution of an African software industry – these all raise important avenues for future research on innovation, appropriation, IP rights and A2K.

The African Journal of Information and Communication welcomes contributions in this thematic area, which we regard as the field of "knowledge governance for development", and we aim to publish several thematic issues on this theme in the coming years.

THEMATIC ISSUE:
AFRICAN INTERSECTIONS BETWEEN INTELLECTUAL PROPERTY RIGHTS AND KNOWLEDGE ACCESS

CURRENT AFRICAN INTERSECTIONS BETWEEN INTELLECTUAL PROPERTY RIGHTS AND KNOWLEDGE ACCESS

Chris Armstrong
AJIC Guest Editor
Visiting Fellow, LINK Centre, University of the Witwatersrand (Wits), Johannesburg

Tobias Schonwetter
AJIC Guest Editor
Director, Intellectual Property Unit, Faculty of Law, University of Cape Town

ABSTRACT
In this introductory article, the two Guest Editors of this 2015 thematic issue of *The African Journal of Information and Communication (AJIC)* – a thematic issue focused on the theme of "African Intersections between Intellectual Property Rights and Knowledge Access" – provide practical and conceptual context for the articles and thematic reports that follow.

KEYWORDS
intellectual property (IP), access to knowledge (A2K), access to medicines, Africa, openness, commons, Creative Commons, development, human rights, human security, WIPO, WTO, UNFCCC, climate change, TRIPS Agreement, Doha Declaration

INTRODUCTION: ACCESS TO KNOWLEDGE (A2K) IN AFRICA

There is widespread acceptance that knowledge resources are central to what Castells (2000) has called the "informational, global and networked" economy (2000, p. 77). And there is also wide agreement that knowledge resources are integral to socioeconomic development and participation, because, as De Beer and Bannerman (2013) write, "[k]nowledge is a prerequisite to – or, at least, a component of – poverty reduction, population health, food security, universal education and most other human development goals" (2013, p. 76).

Accordingly, the norms and rules that affect governance of information and knowledge are of great importance to the 21st century global economic order. One such set of important norms and rules is the international intellectual property (IP) rights regime. As Kapczynski (2010) explains,

> [b]ecause intellectual property law regulates strategies of information production and the appropriation of value from information in the marketplace, it has become a central battleground in the struggles over the structure and spoils of the contemporary economy. Because intellectual property law also regulates much more – from how we are able to learn, think, and create together to how and whether we have access to the medicines and food that we need to live – it has become a central site of political struggle, not just locally, but globally. (Kapczynski, 2010, p. 24)

Within this "central site of struggle" that Kapczynski describes, a key construct – both practical and conceptual – is "access to knowledge", also known as "A2K". A term coined in the early 2000s by a small international grouping of activists and diplomats, including participants from the African continent, A2K joins together a wide range of themes all related in some way or another to the need for IP rights dispensations to balance their closed, protectionist elements with strong elements of openness and access.

African realities, events and actors have been central to the A2K movement since its beginnings (since before it was called A2K, in fact), with the struggle over access to medicines in South Africa in the late 1990s serving as one of the movement's key early focal points. (As knowledge-embedded goods intimately linked to human well-being, medicines have always occupied a prominent place in the broader A2K terrain, particularly in African and other developing-world contexts.) As the articles and reports in this thematic issue of *The African Journal of Information and Communication (AJIC)* show, A2K and related issues are still very much alive and contested on the continent, in a wide range of sectors. The articles and thematic reports in this issue demonstrate that from African filmmakers to farmers, graffiti artists, government policymakers, small-scale entrepreneurs, people living with HIV/AIDS, and researchers interpreting government data, there is cognisance of the need to find appropriate (and often shifting) points along the IP continuum between knowledge protection and sharing, between fencing-off and opening-up, and between private ownership and the public domain.

In this article we provide both practical and conceptual contexts for the articles and reports that follow in this *AJIC* thematic issue. In the practical terrain, which is the focus of the next section, we trace key A2K-oriented events with relevance to the developing world, particularly Africa, since the coming into force, at the beginning of 1995, of the 1994 World Trade Organisation (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). We then turn to what we see as some of the most useful conceptual frames for contextualising the practical realities, including the realities discussed in the articles and reports of this thematic issue. And finally, we conclude with an acknowledgement that both the practical

and conceptual terrain will inevitably continue to evolve in such a way that while the appeal to "A2K" will still remain valid, useful, and powerful on the continent for the foreseeable future, use of this acronym will continually be re-fashioned and re-framed so as to account for evolutions in both practical and theoretical settings.

PRACTICAL EVOLUTION

The practical origins of what became the A2K movement lie in the negotiation of the aforementioned WTO TRIPS Agreement. Adopted in 1994 (at the time of the formation of the WTO) and coming into force on 1 January 1995, TRIPS was binding on all WTO Member States, taking IP rules that had previously been overseen without enforcement capacity by the World Intellectual Property Organisation (WIPO) and making them punishable via trade sanctions. In addition, the TRIPS IP standards were stronger than those that existed in most countries at the time, with developing countries, in particular, having IP dispensations far removed from what TRIPS mandated. In one of the pioneering analyses of TRIPS from a developing-country perspective, Correa (2000) writes that

> [i]ndustrialized countries forced developing countries to initiate negotiation of an agreement on TRIPS with the clear objective of universalizing the standards of IPRs protection that the former had incorporated in their legislation, once they had attained a high level of technological and industrial capability. (Correa, 2000, p. 3)

The onset of TRIPS thus threatened to exacerbate the technological and industrial gaps that existed between the developed and developing worlds in the mid-1990s. For Kapczynski (2010), there are parallels between the motivations behind TRIPS and the drivers of European colonialism in earlier centuries:

> TRIPS was an exceptionally audacious attempt to extract value from and exert control over informational domains in virtually all of the countries of the world. As such, it has less in common with localized enclosure movements than with colonial strategies of conquest. (Kapczynski, 2010, p. 26)

Developing countries made their voices heard to some extent during the negotiation of TRIPS in the late 1980s and early 1990s under the Uruguay Round of talks under the General Agreement on Tariffs and Trade (GATT). During these TRIPS negotiations, Deere (2009) writes,

> [d]eveloping countries protested that the Agreement would consolidate corporate monopolies over the ownership of ideas, exacerbate the north-south technology gap, and perversely speed the transfer of capital from developing to developed countries. They argued that stronger IP standards would harm their development prospects and that they were ill-equipped to harness any purported benefits. (Deere, 2009, p. 1)

But the balance of power in the TRIPS negotiating sessions was clearly with the developed world, as a function of, inter alia, the central role played by developed-world transnational corporations in the development of, lobbying for, the Agreement. And thus TRIPS was adopted according to the vision of its developed-world framers. Once TRIPS was in place, there was pressure on WTO Member States to harmonise their national IP laws with the minimum standards provided in TRIPS – and, for African and other developing-world governments, to decide if and how to make use of IP flexibilities allowed by TRIPS.

ACCESS TO MEDICINES

There was pressure on developing-world states to, as Deere puts it, "abstain from using the flexibilities available in TRIPS" (2009, p. 1), and it was this pressure that was at the heart of the access-to-medicines battle in South Africa in the late 1990s, mentioned earlier. In 1997, the South African government under President Nelson Mandela proposed amendments to the country's Medicines and Related Substances Control Act that would allow for parallel importation into South Africa of patented HIV/AIDS drugs being sold more cheaply in other countries. The international pharmaceutical industry came out strongly against the amendments. The ensuing struggle between the South African government (supported by an international network of local and overseas activists, with the South African Treatment Action Campaign playing a crucial role) and the international pharmaceutical sector (backed by the US government and some EU governments) became a crucial early test of developing-country use of TRIPS flexibilities (in this case the parallel importation flexibility). The access-to-medicines campaign triumphed in this instance, through generating significantly negative publicity for the pharmaceutical firms, who abandoned their legal action against the South African government in early 2001 (t'Hoen, 2003).

According to Drahos and Braithwaite (2002), in their analysis of this access-to-medicines victory,

> [f]or the first time, mass publics in the West learnt that their governments had, in the 1980s, participated in trade negotiations that globally strengthened patent monopolies, that obliged developing countries to recognize product patents on pharmaceuticals and that reduced their sovereignty over health regulation. (Drahos & Braithwaite, 2002, p. 8)

Later the same year, in November 2001, the developing-world push to ensure that the TRIPS regime did not undermine poor countries' access to lifesaving medicines was formalised when the Fourth WTO Ministerial Conference adopted the Doha Declaration on the TRIPS Agreement and Public Health (WTO, 2001). Again there was a strong African dimension, with the African Group of WTO Member States, led at the time by Zimbabwe (which was chair of the TRIPS Council), instrumental in getting medicines access onto the Doha agenda (t'Hoen, 2003).

Among the reasons why the US government did not block the Doha Declaration, according to Drahos and Braithwaite (2002), was the fact that US policymakers were concerned to ensure that protest over the cost of patented drugs did not become a US domestic issue. It was already commonplace at the time for Americans to cross over into Mexico to buy patented drugs at lower prices:

> The worst of all possible worlds was one in which the debate over the price of patented drugs for the poor in developing countries spilt over into the price of patented drugs in the US. If the price of prescription drugs in the US had tripled in the last decade might they not triple again in the next? How many more US citizens, unable to afford patented drugs, would make that trip to Mexico? The bureaucrats that had been supporting the pharmaceutical establishment went into damage control mode. (Drahos & Braithwaite, 2002, p. 8)

COALESCENCE INTO A2K

Meanwhile, at the same time that the combined efforts of (mostly Northern) NGOs and (mostly Southern) governments were succeeding in giving international momentum to the access to medicines movement (as codified in the Doha Declaration), there were also other matters at the intersection of IP and access gaining traction. These issues included opposition to increased database protection, promotion of free and open source software (FOSS), advocacy for open access (OA) publishing of scientific research, and promotion of expanded and enhanced use of copyright limitations and exceptions for materials access by, inter alia, the visually impaired, libraries and educational institutions (Abdel-Latif, 2010a). But, writes Abdel-Latif (2010a), these movements represented "a fragmented constituency that was made up of a number of disparate groups with a focus on very specific issues that at first glance appeared to be not very much related to each other" (2010a, p. 110).

The coalescing of these groups into the A2K movement emerged from meetings of NGO actors and developing-country diplomats convened in New York in 2004 by the Consumer Project on Technology (CPTech) and Trans-Atlantic Consumer Dialogue. Here the decision was taken to adopt the term "access to knowledge" (later also given the acronym "A2K").

Other key developments in the early 2000s that framed the emergence of the A2K movement were the Budapest Open Access Initiative statement (2002), the report of the UK Government's Commission on Intellectual Property Rights (CIPR, 2002), the staging of the first International Centre for Trade and Sustainable Development (ICTSD) Bellagio Dialogue in 2002, the 2003 Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (Berlin Declaration, 2003), and the 2003 Declaration of Principles of the World Summit on the Information Society (WSIS) (ITU, 2003). The CIPR report made a strong call for recalibration of the TRIPS-based international IP system so that the system could serve the needs of both developing and developed nations, and the WSIS Geneva Declaration contained A2K-oriented statements in a section of principles entitled "Access to information and knowledge" (ITU, 2003, pp. 7-8). In 2004, the same year that the term A2K was coined, the movement made its presence felt at WIPO via a proposal tabled in the WIPO General Assembly, by the governments of Brazil and Argentina, for a WIPO "development agenda" (WIPO General Assembly, 2004), and via release, by the coalition of civil society activists and academics that was now the A2K movement, of the Geneva Declaration on the Future of WIPO (Geneva Declaration, 2004). In 2005, parts of the same coalition, led by CPTech, produced a Draft A2K Treaty (Draft Treaty on A2K, 2005).

The African Group of government missions in Geneva, which had been central to the WTO TRIPS Council processes leading up to the 2001 Doha Declaration, was also prominent in the push initiated by Brazil and Argentina for what in October 2007 became the official WIPO Development Agenda (WIPO General Assembly, 2007). Implementation of the Agenda's 45 recommendations is overseen by permanent WIPO Committee on Development and Intellectual Property (CDIP), which had its first sitting in 2008 – attended by representatives from roughly 100 WIPO Member States, from inter-governmental entities and from NGOs (De Beer, 2009, p. 8).

AFRICAN INITIATIVES

Just as the period 2004 to 2007 marked the global A2K movement's full arrival on the international stage, it was also the period when the African A2K push solidified. Key African initiatives in this period were: the 2004-05 Access to Learning Materials in Southern Africa (A2LMSA) project[1] hosted by the Consumer Institute South Africa; the 2005-06 Commons-Sense Project[2] managed by the University of the Witwatersrand (Wits) LINK Centre in Johannesburg; the 2005 launch of Creative Commons (CC) South Africa;[3] the Commonwealth of Learning (CoL) copyright experts meeting in Johannesburg (CoL, 2005); founding of the African Access to Knowledge Alliance (AAKA); the 2005 African Copyright Forum conference in Kampala; establishment of

1 http://www.aca2k.org/index.php/projects/a2lmsa.html
2 http://www.aca2k.org/index.php/projects/commons-sense.html
3 http://creativecommons.org/tag/south-africa

The African Commons Project (TACP);[4] and adoption of the Cape Town Open Education Declaration (Cape Town Declaration, 2007). Both the A2LMSA and Commons-Sense projects convened international conferences in Johannesburg in 2005, and the Commons-Sense conference included the launch of CC South Africa. The keynote speaker at that launch was one of CC's founders, Lawrence Lessig, a key figure in A2K's conceptual underpinnings (covered below under "Conceptual Frames"). CC's international iCommons initiative was run for two years by the aforementioned TACP, based in Johannesburg, which ensured strong African participation in three international A2K-oriented iCommons iSummits (in Rio, Dubrovnik and Sapporo) that focused on fostering modes of online sharing and collaboration (iCommons, 2007, 2008).

African A2K-oriented research and conceptual work also began to emerge from 2005 onwards. The A2LMSA, Commons-Sense, CC South Africa and TACP projects generated research publications, and *AJIC* (then called *The Southern African Journal of Information and Communication (SAJIC)*) published a special issue on "Intellectual property rights and creating an African digital information commons" in 2006 (Armstrong & Ford, 2005; Prabhala, 2005; *SAJIC*, 2006; Rens et al., 2006). There was also growth in Master's and PhD work on the continent adopting A2K orientations (see Schonwetter, 2005, 2009). Between 2007 and 2011, the African Copyright and Access to Knowledge (ACA2K) network,[5] managed by the Wits LINK Centre, conducted primary research into relationships between national copyright environments and learning materials access in eight countries: Egypt, Ghana, Kenya, Morocco, Mozambique, Senegal, South Africa and Uganda (Armstrong et al., 2010). Also conducting primary research during this period were the Publishing and Alternative Licensing Models Africa (PALM Africa) project and the Access to Knowledge in Southern Africa project. PALM Africa investigated the dynamics of publisher adoption of CC licences in Uganda and South Africa (Gray et al., 2010), and the Access to Knowledge Southern Africa project looked at A2K constraints faced by universities in seven Southern African countries (Abrahams et al., 2008). Meanwhile, in Egypt, The American University in Cairo (AUC) established its Access to Knowledge for Development Center (A2K4D), which began work with like-minded Egyptian stakeholders, including the Bibliotheca Alexandrina, to give A2K a foothold in that country.

In 2011, the eight-country ACA2K network evolved into a larger entity, the Open African Innovation Research (Open AIR) network,[6] which currently has members in 14 African countries. Open AIR, which includes researchers from the fields of law, economics, library and information science, innovation studies, political science and media studies, has four African hub institutions: the Intellectual Property Unit (IP Unit) in the University of Cape Town Faculty of Law, the aforementioned A2K4D in Cairo, the Lagos office of the Nigerian Institute of Advanced Legal Studies (NIALS), and the Centre for IP and IT Law (CIPIT) at Strathmore University in Nairobi. There is also an Open AIR Canadian hub, at the University of Ottawa Faculty of Law, which taps into overseas expertise, including the extensive African academic diaspora.

Open AIR's first round of research and publications, between 2011 and 2014, was related to the issue of A2K in that it investigated the open and collaborative innovation and IP approaches of African innovators and creators across diverse sectors in nine countries: Egypt, Nigeria, Ghana, Ethiopia, Uganda, Kenya, Mozambique, Botswana and South Africa (De Beer et al., 2014). During this period, Open AIR also developed three scenarios for the future of knowledge and innovation on the continent (Elahi & De Beer, 2013).[7] Running concurrently with the first phase of Open AIR was the Scholarly Communication in Africa Programme (SCAP) based at the University of Cape Town, which looked at, inter alia, dynamics around university open access (OA) publishing in Botswana, Mauritius, Namibia and South Africa (Trotter et al., 2104). Other significant additions to the development-oriented literature on IP in the past decade have come from studies commissioned by the ICTSD, the UN Conference on Trade and Development (UNCTAD), the South Centre, WIPO, the UN Educational, Scientific and Cultural Organisation (UNESCO), Consumers International, the Third World Network (TWN), and the Quaker United Nations Office.

SOUTH-SOUTH DIMENSIONS

There is a growing trend towards A2K-oriented research, advocacy and policy engagement focusing on the Global South – i.e., Africa, the Asia-Pacific, and Latin America and the Caribbean – and generating South-South cross-fertilisations and comparisons. For instance, a study of the access dynamics of media piracy in developing and emerging economies drew on data from, inter alia, South Africa, Brazil, Mexico, Bolivia and India (Karaganis, 2011). And there are currently at least three large A2K-oriented research networks with members from across the Global South: the Open Data Research Network,[8] the Open and Collaborative Science in Development Network (OCSDNet),[9] and the Research on Open Educational Resources for Development (ROER4D) network.[10] In addition, the aforementioned Open AIR network is forging links between its work and efforts elsewhere in the Global South.

One key forum for South-South cross-fertilisation is the Global Congress on IP and the Public Interest,[11] as first initiated by the Program on Information Justice and Intellectual Property (PJIP)[12] at the American

4 http://www.africancommons.org
5 http://www.aca2k.org
6 http://www.openair.org.za
7 Several of the contributors to this thematic issue, including the authors of this article, are members of the Open AIR network.
8 http://www.opendataresearch.org
9 http://ocsdnet.org
10 http://roer4d.org
11 http://global-congress.org
12 http://www.pijip.org

University Washington College of Law. The first meeting of the Global Congress was in Washington in 2011, followed by Rio in 2012, and Cape Town in 2013 (hosted by Open AIR). For the 4th Global Congress, in December 2015, New Delhi was chosen as the host city. As an illustration of the strong Global Southern presence in these gatherings, the Cape Town Congress in December 2013 had delegates from 54 countries, and 38 of those nations were in the Global South (23 countries in Africa, nine in Latin America and the Caribbean, and six in the Asia-Pacific). Also building South-South cross-fertilisation is Yale Law School's Information Society Project (ISP),[13] which coordinates the A2K Global Academy. The Academy's members are university centres in both the North and South, including members in Latin America, Asia and Africa, with the African centres being the UCT IP Unit in Cape Town and AUC's A2K4D in Cairo. Yale ISP has also supported studies of A2K in Egypt, South Africa, Brazil and India (Rens & Khan, 2009; Rizk & Shaver, 2010; Shaver, 2008; Subramanian & Shaver, 2011).

At the level of intra-governmental IP norm-setting, the power of Global South solidarity has been apparent since the early 2000s and continues to manifest itself. The 2001 WTO Doha Declaration was a clear early example, as were the WIPO General Assembly's adoption of the Development Agenda in 2007 and, more recently, adoption of the 2013 WIPO Marrakesh Treaty on access for the blind, visually impaired and print-disabled (WIPO, 2013). Another intra-governmental forum that has emerged as a critical platform for Southern state-level solidarity on IP matters is the annual meetings of the Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) of 1992. A central issue at the UNFCCC COP meetings in recent years has been how to ensure low-cost developing-world access to the patented developed-world environmentally sound technologies that must be urgently implemented if the world is to have any chance of arresting global warming at the target level of two degrees above pre-industrial levels (Abdel-Latif et al., 2011; Rimmer, 2011b).

In addition to the developing-country solidarity on IP and technology transfer matters in the UNFCCC talks, developing-country representatives are also working together to push forward the same agenda at meetings of the WTO Council for TRIPS (WTO Council for TRIPS, 2014). Also prominent in recent TRIPS Council's sessions has been the least-developed-country (LDC) push for extension of the LDC waiver, due to expire on 1 January 2016, on the WTO obligation to enforce IP rights on pharmaceutical products (New, 2015).

CONCEPTUAL FRAMES

At the time of the coining of the term "A2K" in the early 2000s – according to one of the African participants in that conception, Abdel-Latif – the term was conceived as a response to, inter alia, the potentially exclusionary and inequitable manifestations of the rapidly globalising knowledge economy. As Abdel-Latif writes:

> [I]f the "knowledge economy" was the new paradigm in the global allocation of wealth and resources, then "access to knowledge" became the indispensable other side of the coin in order to make the economic globalization process underpinning the knowledge economy inclusive and equitable. (Abdel-Latif, 2010, p, 111)

This conception of what A2K represented in the early 2000s still largely holds true today, but there has, in the intervening years, been a substantial growth in conceptual work in the broad, interdisciplinary terrain of A2K, and in this section we outline what we see as some of the conceptual frames most relevant to the articles and reports in this AJIC thematic issue.

The pioneering development-oriented conceptual discussions of the TRIPS-based international IP dispensation were published in the early 2000s, with these kinds of approaches only becoming somewhat common from about 2005 onwards. Today there is a strong body of literature to draw on when seeking to conceptually frame intersections between Africa's IP and developmental imperatives. We now briefly discuss four cross-cutting areas of conceptual framing that we regard as useful for contextualising the articles and reports that follow in this thematic issue:

- Access
- Openness
- Development
- Human rights and human security

ACCESS

As we saw in the "Practical Evolution" section above, the notion of knowledge *access* – as instrumentalised for advocacy purposes via the term access to knowledge and the acronym A2K – has had, and continues to have, significant power in global, Global Southern, and African practical engagements with IP dynamics. But how *conceptually* useful is the access notion today, now that the conceptual terrain has become substantially more nuanced?

In relation to IP rights, the notion of access has, in fact, always been an exercise in conceptual shorthand – shorthand for a broader set of conceptual matters comprising knowledge creation, access, distribution, sharing,

13 http://isp.yale.edu

use, re-use and adaptation. It can easily be argued that the time has come to rely less on this conceptual shorthand and focus more on broader concepts such as "justice" (as the African scholarly network ASK Justice, a contributor to this thematic issue, does) or "governance".

However, it is our view that the access concept should not be marginalised. As demonstrated above, access is a concept with a rich practical history in relation to the quest for a more equitable international IP dispensation, and this successful practical history should not be separated from evaluation of the value of the concept. And we agree with Kapczynski's (2010) statement, in her "conceptual genealogy" of the A2K movement, that

> [t]he demand for access is an inherently relational one – a claim from those excluded that they be included, that they be given something that others already enjoy. In this sense, it marks perhaps the only – or at least the most prominent – demand for distributive justice emanating from the A2K movement, which otherwise borrows more from discourses of freedom. (Kapczynski, 2010, p. 37)

This notion of "distributive justice", which Kapczynski cites as being central to the concept of access, remains extremely salient in many African contexts. The need to transition from a state of exclusion to a state of access is felt daily by millions on the continent – in relation to myriad matters, among which knowledge is prominent and interwoven. Knowledge exclusion exacerbates, or causes, or is caused by, a web of other exclusions felt by impoverished individuals, households and communities – e.g., exclusions based on income, gender, education, health, visual impairment, age, technology, ethnicity, language and civic/political association. The concept of access thus helps to conceptually and practically tie together problems of knowledge exclusion with myriad other (often less abstract) exclusions on the African continent (and elsewhere in the Global South, and even in the North). Accordingly, the concept of knowledge access is linked in the articles and reports of this thematic issue to a range of other access dimensions, inter alia, access to medicines (the Hobololo thematic report and the Rens & Pfumorodze thematic report), access to technological information (the Belete thematic report); access to educational materials and to Internet (the Baraki thematic report) and access to farm-saved seed (the Munyi & De Jonge article).

However, it must always be borne in mind that, as pointed out above, the concept of access is often deployed as shorthand within the A2K space for a diverse set of concepts concerned with, or connected to, efforts to craft more equitable, more development-friendly approaches to treatment of IP in processes of knowledge creation, access, sharing, use, re-use and adaptation. Prominent among that set of concepts is *openness*, to which we now turn.

OPENNESS

The concept of *openness* has never strayed far from the conceptual centre of the push for more equitable international IP norms and practices. No small amount of credit for the prominence of this concept is owed to the "open source" software movement, today known as the free and open source software (FOSS) movement. In practical terms, FOSS pre-dates TRIPS, with key open source initiatives gaining traction in the 1980s. But in conceptual terms, much of the key work of FOSS proponents – and, with the spread of the Internet in the 1990s, the work of proponents of various software-, information-, and knowledge-related peer production initiatives – provided the evidence needed for growth of the conceptual terrain now characterised by notions of the commons (Boyle, 2003, 2008; Ostrom, 1990), peer-to-peer (P2P) networking, peer production, and Benkler's (2002, 2006) concept of "commons-based peer production".

A pioneering work that presents a strong case for the dynamics of openness in the development and use of knowledge is the 2002 volume *Information Feudalism* by Drahos and Braithwaite, in which the authors extol the virtues of, inter alia, "borrowing". They write that

> [c]opying and imitation never leave us, and without it a lot of socially valuable information would never be transmitted or learnt. The creator of innovation is also always the borrower of ideas and information from others. Intellectual property rights put a price on information, thereby raising the cost of borrowing. Raising the costs of borrowing through the imposition of very high standards of intellectual property will progressively choke innovation, not increase it. Most businesses, we argue, will be losers, not winners. (Drahos & Braithwaite, 2002, p. 2)

Lessig's 2004 book *Free Culture* also pushed the discussion of openness in relation to IP in many useful directions. Among Lessig's observations in that volume is that "[d]igital technologies launch a kind of bricolage […]. Many get to add to or transform the tinkering of many others (2004, p. 46). Lessig also points out that "[t] he law and, increasingly, technology interfere with a freedom that technology, and curiosity, would otherwise ensure (Lessig, 2004, p. 47). Like Drahos and Braithwaite (2002), Lessig emphasises the centrality of the borrowing and "follow-on" (2004, p. xiv) dimensions of innovation and creativity, and he goes to great lengths to show the extent to which intellectual output is never completely new, and thus never completely the product, let alone the property, of one single creator or firm. The value of Lessig's work also comes from his effort to propose ways to work within the parameters of the IP regime created by TRIPS – e.g., via the CC licensing system Lessig helped found – in such a way that the system's potential negative externalities are minimised.

Another key writer in this conceptual area is May (2000, 2010), who emphasises the strategic utility of the openness construct not just for critics of the TRIPS dispensation but also for TRIPS proponents. According to May (2010), "the appeal to openness may in the end save the intellectual property system from the social resistance that the most extreme efforts to expand its scope have engendered" (2010, p. 68). May's view is that the "narrative of openness" offers a way forward to a transformed system that potentially both TRIPS opponents and proponents can live with:

> A reformism that seeks to balance the fervent appeal to the rights of private owners with an equally strong appeal to the narrative of openness may provide a way forward that recognises the criticisms of the intellectual property system, but uses these to transform a system that may retain some clear social value. (May, 2010, p. 68)

While we agree with May (2010) that the openness narrative in some respects offers a bridge between camps in the IP discourse, we also agree with Kapczynski's (2010) argument that appeals to the concept of openness also in some respects strike at the very foundations of the logic of IP protection. Kapczynski sees openness and "sharing" as twinned concepts, and argues that calls for openness and sharing are "posited against the ethic of exclusion" (2010, p. 34), thus representing a central "challenge to the neoclassical model of the rational, self-interested actor" (2010, p. 35) central to the logic of IP protection.

Conceptions of openness are addressed by most of the articles and reports in this thematic issue. The Willmers, Van Schalkwyk and Schonwetter article looks at open data portal projects in Kenya and the City of Cape Town and how they are approaching licensing of their content. Baraki's thematic report looks at the potential for open licensing of copyrighted scholarly and educational materials in Ethiopia. Rizk's article on the work of Egyptian and Tunisian graffiti artists looks at how these creators to some extent re-use, transform and build upon the graffiti work of their peers – a finding that prompts Rizk to recommend that the graffiti artists consider publishing their works online under CC open licences that allow for permission-free copying and adaptation. The article by Flynn on the work of filmmakers in South Africa, highlights, inter alia, the need for the South African Copyright Act to provide broader copyright exceptions for filmmakers' permission-free use of extracts from other works in their films – so as to better enable filmmakers to engage in historical reflection, criticism, parody, and other forms of borrowing and follow-on creativity essential to documentary-making. And the De Beer and Armstrong article surveys conceptual work and research findings relevant to understanding the dynamics of openness-oriented innovation in African small enterprises.

DEVELOPMENT

The *development* conceptual frame is central to the push for better-balanced, more equitable international IP norms and policies. It is also a highly contentious frame, because proponents of TRIPS-style strong IP rights also typically see their approach as pro-development, with one WIPO Director-General referring to IP as a "power tool for development" (Idris, 2003).

One of the pioneering critics of the developmental credentials of TRIPS was Correa, who in 2000, just five years into the TRIPS era, rejected its proponents' claim "that enhanced and global protection of IPRs [will] foster technology and investment flows to developing countries, thus promoting their participation in trade and economic development" (2000, p. 23.) For Correa, it was clear by 2000 that such benefits "are not materializing" (2000, p. 23). Correa was, however, careful to make the important point that the countries of the developing world are by no means homogenous, and that the impact of TRIPS "will significantly vary in accordance with the levels of economic and technological development of the countries concerned" (2000, p. 24).

Another strong, early critique of TRIPS proponents' pro-development claims was the volume by Drahos and Braithwaite (2002), who wrote that

> [u]nderneath the development ideology of intellectual property there lies an agenda of under-development. It is all about protecting the knowledge and skills of the leaders of the pack. (Drahos & Braithwaite, 2002, p.12)

Around the same time, Sell (2003) sounded a similar note:

> the dramatic expansion of the scope of IP rights embodied in TRIPS reduces the options available to future industrializers by effectively blocking the route that earlier industrializers followed. […] The industrialized countries built much of their economic prowess by appropriating others' intellectual property; with TRIPS, this option is foreclosed for later industrializers. (Sell, 2003, p. 9)

A key mainstream legitimation in the early 2000s of the emergent academic and civil society critique of the developmental impact of TRIPS arrived in the form of the 2002 report of the UK Commission on Intellectual Property Rights (CIPR). Mandated by the UK government to interrogate the developmental impacts of the TRIPS dispensation, and with Correa serving as one of the commissioners, the CIPR delivered a powerful rebuke to the international IP norm-setting machinery. The CIPR report stated clearly that the TRIPS-based IP order had been crafted by rich-world interests, and that it had the potential to further entrench those

interests, unless "far more attention" was "accorded to the needs of the developing countries in the making of international IP policy" (2002, p. 8).

Putting a lie to the argument that TRIPS was pro-development, the CIPR concluded that development still remained "to be integrated into the making of IP rules and practice" (CIPR, 2002, p. 8), and that

> developing countries should not be deprived of the flexibility to design their IP systems that developed countries enjoyed in earlier stages of their own development, and higher IP standards should not be pressed on them without a serious and objective assessment of their development impact. (CIPR, 2002, p. 8)

In the 13 years since the release of the CIPR report, there have been (as we saw in the previous "Practical Evolution" section) many additional instances of mainstream recognition of the need to reorient the TRIPS-based IP system towards development, most notably the WIPO General Assembly's adoption in 2007 of the Development Agenda.

The conceptual terrain in relation to the intersection between IP and development has also grown significantly since aforementioned pioneering work of Correa (2000), Drahos and Braithwaite (2002) and Sell (2003) and others, and the pioneering report of the CIPR in 2002. One strong example of how far the conceptual work has come since the early 2000s is the 2014 volume, *Intellectual Property Rights: Legal and Economic Challenges for Development*, edited by Cimoli, Dosi, Maskus, Okediji, Reichman and Stiglitz.

In the final chapter of this volume, the five editors make several compelling assertions. They argue against the binary view of strong IP protection as being helpful to the developed world and unhelpful to the developing world, arguing instead that strong IP norms are damaging to both these worlds. In the developed world, they write, "all innovations build on previous innovations, and by making the fruits of existing innovations less accessible, the progress of science and technology may be inhibited" (Cimoli et al., 2014, p. 503). Furthermore, they argue, to the extent that strong IP is more damaging to the innovation prospects of the developing world than to those of the developed world, this too is negative for all countries, because "even the advanced industrial countries have an interest in the rapid growth of all other countries: growth in emerging markets and developing countries can be complementary to that of the advanced countries" (Cimoli et al., 2014, p. 503).

Cimoli et al. (2014) also put forward a compelling argument in relation to IP and global public goods, arguing that

> everyone has an interest in the promotion of global public goods – in doing something, for instance, about global warming. For example, concerns about having to pay large rents to developed countries that control access to emission-reducing technologies is one important impediment to reaching a global climate accord. At the same time, without some incentives to undertake risky innovation, there may be fewer emission-reducing technologies available. (Cimoli et al., 2014, p. 504)

Cimoli et al. (2014) also forcefully state the "humanitarian interest in avoiding unnecessary suffering" that requires "access to life-saving medicines and better seeds and agricultural technologies", and that can only be provided by an international IP order "designed to facilitate both innovation and access, without imposing unnecessary impediments, as the current system does" (2014, p. 504).

Two of the pieces in this thematic issue – by Hobololo, and Rens and Pfumorodze – touch on the access-to-medicines challenge alluded to in the preceding Cimoli et al. (2014) quotation, demonstrating that this access issue continues to be at the heart of the push for a development-oriented international IP order. Another dimension touched on in the preceding Cimoli et al. quote – access to seeds – is also covered in this thematic issue, via the Munyi and De Jonge article on the intersection between plant varieties protection (PVP) and African smallholder farmers' access to farm-saved seed.

The Cimoli et al. (2014) references, quoted above, to "humanitarian" dimensions, and to "global public goods" such as the shared global need to tackle climate change caused by global warming, provide a link to the next conceptual frame we wish to discuss: *human rights and human security*.

HUMAN RIGHTS AND HUMAN SECURITY

As the Rens and Pfumorodze thematic report in this thematic issue points out, *human-rights*-oriented conceptualisations of IP are quite established, dating back to the 1966 International Covenant on Economic, Social and Cultural Rights. What is not well established, however, as Rens and Pfumorodze outline, is integration of the human rights dimension into IP policy processes and instruments.

In addition to the human rights framing, we feel that, particularly given the current global prominence of climate change matters, there is value to be had in giving more prominence to the *human security* conceptual framework – a framework that includes, and is in many respects grounded in, human rights, but which, at the same time, is potentially broader in its focus, through its emphasis on the need for actors at all levels – individual, community, state, intergovernmental – to take the steps necessary to enhance human security.
The founding statement of the human security framework is widely seen as being the 1994 UN Human Development Report (UNDP, 1994), which states that

[t]he list of threats to human security is long, but most can be considered under seven main categories:

- Economic security
- Food security
- Health security
- Environmental security
- Personal security
- Community security
- Political security. (UNDP, 1994, pp. 24-25)

There are arguably links between each of these seven listed human security categories and developmental approaches to IP. The 1994 *Human Development Report* sought to re-calibrate development discourse in the run-up to the 1995 UN World Summit for Social Development in Copenhagen in 1995. The *Report* positioned human rights as but one of the goals to be achieved through a focus on human security, stating that

> it will not be possible for the community of nations to achieve any of its major goals – not peace, not environmental protection, not human rights or democratization, not fertility reduction, not social integration – except in the context of sustainable development that leads to human security. (UNDP, 1994, p. 1)

Among the core consultants who inputted on the 1994 *Human Development Report* was economist and Nobel Laureate Amartya Sen, proponent of the "capability approach" to understanding development (Sen, 1999). Sen, whose ideas are cited in the Baraki report in this thematic issue, went on to serve as one of the two co-chairs of the UN Commission on Human Security, along with former UN High Commissioner for Refugees Sadako Ogata. The Commission's report, published in 2003, stated that

> [h]uman security complements state security, enhances human rights and strengthens human development. It seeks to protect people against a broad range of threats to individuals and communities and, further, to empower them to act on their own behalf. And it seeks to forge a global alliance to strengthen the institutional policies that link individuals and the state – and the state with a global world. Human security thus brings together the human elements of security, of rights, of development. (UN Commission on Human Security, 2003, pp. 3-4)

This human security framing seems to us to provide an extremely useful conceptual frame for all manner of developmental approaches to IP. It is a frame that potentially captures all of the articles and reports that follow in this thematic issue.

Ramcharan's 2013 book *International Intellectual Property Law and Human Security* makes a compelling case for positioning development-oriented IP as a matter of human security. As Ramcharan (2013) writes:

> The human security framework can help the international community arrive at equitable balances between the regime of international intellectual property law and the needs of developing countries and indigenous peoples on the ground. (Ramcharan, 2013, p. x)

Ramcharan calls for the international IP system to "be regulated and managed in such a way as to advance human security worldwide", and he argues that "in the era of global harmonization of IP law, the notion of the 'public' encompasses not only the national public but the global public." (2013, p. 24). Ramcharan's reference to the "global public" resonates with the quotation from Cimoli et al. (2014) provided above, in the "Development" sub-section, in relation to "global public good" characteristics of efforts to address global warming.

The 2003 report of the UN Commission on Human Security does, in fact, directly cite IP dimensions. The report states that "[t]he recent acceleration of global trade has sparked international debate over the ownership and application of knowledge for human health and security" and goes on to make reference to the patent provisions of the 1994 WTO TRIPS Agreement, and to the 2001 WTO Doha Declaration.

The Commission's citing of "environmental security" provides a useful bridge to perhaps the most far-reaching human security (and IP) challenge of today: climate change. One of the most contentious issues in climate change negotiations is how to speed up transfer, from the developed to developing world, of environmentally sound technologies essential to both climate change mitigation and adaptation. Patented clean energy technologies are mostly devised in developed world countries, prompting developing nation representatives to the annual meetings of the Conference of the Parties (COP) to the 1992 UN Framework Convention on Climate Change (UNFCCC) to push for mechanisms to provide low-cost or even free access to the IP in these technologies. Accordingly, technology transfer wasone of the key negotiating points at COP21, the Paris UN Climate Change Conference at the end of 2015. One of the reports in this thematic issue, by Belete, touches on the issue of technology transfer, and provides a useful reminder that developing nations' "absorptive capacity" also plays a role in the effectiveness of transfers of technological information.

But the intersections between IP and climate change go beyond the issue of transfer of patented green technologies. Food security in the face of climate change is likely to be impacted by plant breeders' rights – an IP topic also touched upon in this thematic issue in the article by Munyi and De Jonge. And climate change also intersects with issues of copyrighted information resources, and green trademarks.

In their analysis of the intellectual property "impasse" in UNFCCC negotiations, Abdel-Latif, Maskus, Okediji, Reichman and Roffe (2011) argue that "unless the role of intellectual property is addressed in a constructive and balanced manner, the potential for achieving sustainable and realistic outcomes from the climate talks could be compromised. (2011, p. 1) Abdel-Latif et al. (2011) compare the "urgency" of climate change matters with those of the access to medicines issue, writing that "in both public health and climate change, there is a sense of moral urgency to address public policy objectives that requires going beyond the 'status quo' and 'business as usual' practices, including in the IP system" (2011, p. 3). At the same time, Abdel-Latif et al. (2011) point to research findings (see Abbott, 2009; Barton, 2007) that suggest that loosening up IP controls on climate change technologies and ensuring competitive markets in the technologies should be an easier battle than the battle in the essential medicines sector, because "the wide range of climate change mitigation and adaptation technologies contrasts with the pharmaceutical sector, where one single patent over a molecule can give the patent owner significant market power to set high prices, particularly in the absence of generic competition" (2011, p. 3).

Another forum where the IP dimensions of climate change are currently the subject of contestation is the WTO Council for TRIPS, where, as we saw above in the "Practical Evolution" section, developing-world Member States have in recent years been pushing for steps to generate quicker and more affordable transfer of patented green technologies. Based on his analysis of UNFCCC, WTO TRIPS Council and WIPO Green [14]processes, Rimmer (2014) calls for a joint declaration from the UNFCCC, WIPO and the WTO on IP and climate change. In a similar vein, Khor (2012), calls for a new TRIPS Declaration, similar in character to the 2001 Doha Declaration, "in relation to use of TRIPS flexibilities to improve developing world access to climate-related technologies" (2012, p. 15).

Khor (2012) positions the "climate crisis" as a human security issue and argues that, accordingly, developing-world TRIPS Member States should consider invoking their rights under TRIPS' "Security Exceptions" in Article 73 (WTO, 1994) in order to secure more affordable access to patented green technologies. Khor (2012) writes:

> Article 73 states that in situations of war or other emergency in international relations, nothing in TRIPS will be construed as preventing a Member from taking any action which it considers necessary for the protection of its essential security interests. There is a strong case for equating the climate crisis with a global emergency situation. [...] In such conditions, individual commercial interests such as patents can be suspended so that there can be concerted global and national actions in the most effective way, to face the common threat. Developing countries require technologies at the cheapest possible prices. If they obtain the needed technology at one third the price, they can increase the rate of change to put into effect mitigation and adaptation measures many times more rapidly and effectively. (Khor, 2012, p. 17)

With regard to the UNFCCC, Khor (2012) argues that it "should adopt the principle that developing countries can exempt climate-friendly technologies from patents" (Khor, 2012, p. 19).

CONCLUSION

We have seen that certain founding practical and conceptual matters have remained central to the African, Global South and global dimensions of the A2K construct since its beginnings two decades ago in the wake of the adoption of TRIPS. But we have also seen that, at the same time, there has been substantial evolution and expansion in both the practical and conceptual terrains of A2K. Accordingly, it can be expected that African activists, researchers, academics and policymakers seeking developmental IP dispensations on the continent – and stakeholders outside the continent focused on similar goals – will, going forward, continue to combine loyalty to the founding elements of the movement with efforts to forge new elements.

Already the founding practical components – e.g., the push for life-saving medicines, for flexible copyright, for use of TRIPS flexibilities, for a development-oriented WIPO – have being supplemented by emphasis on, inter alia, government open data, informal-sector innovators, farmers' rights, and green technologies. This path of practical supplementation can be expected to continue, as new developmental challenges and new technologies emerge. (What, for instance, will be the practical A2K dimensions of diffusion of 3D printing technology in various African settings?) So, too, has A2K's founding conceptual element – access – been gradually enriched by interlinkages with conceptions of openness, development, and human rights. And, as we have argued, there would seem to be conceptual potential in forging deeper linkages with the concept of human security.

Appropriately, the articles and reports in this thematic issue address both founding and emergent elements of the A2K terrain in contemporary African settings. It is hoped that the reader will find, in these pieces, practical and conceptual statements that serve to spark some of the follow-on creativity and knowledge production necessary to continued evolution of the A2K construct.

14 http://wipo.int/green

REFERENCES

Abbott, F. M. (2009). *Innovation and technology transfer to address climate change: Lessons from the global debate on intellectual property and public health*. Intellectual Property and Sustainable Development Series, Issue Paper No. 24. Geneva: International Centre for Trade and Sustainable Development (ICTSD).

Abrahams, L., Burke, M., Gray, E., & Rens, A. (2008). *Opening access to knowledge in Southern African universities*. Johannesburg: Southern African Regional Universities Association (SARUA).

Abdel-Latif, A. (2010a). The emergence of the A2K movement: Reminiscences and reflections of a developing-country delegate. In G. Krikorian, & A. Kapczynski (Eds.), *Access to knowledge in the age of intellectual property* (pp. 99-126). New York: Zone Books.

Abdel-Latif, A. (2010b). Egypt's role in the A2K movement: An analysis of positions and policies. In N. Rizk, & L. Shaver (Eds.), *Access to knowledge in Egypt: New research on intellectual property, innovation and development* (pp. 16-55). London: Bloomsbury Academic.

Abdel-Latif, A., Maskus, K. E., Okediji, R. L., Reichman, J. H., & Roffe, P. (2011). *Overcoming the impasse on intellectual property and climate change at the UNFCCC: A way forward*. Policy Brief No.11. Geneva: International Centre for Trade and Sustainable Development (ICTSD).

Armstrong, C., & Ford. H. (2005). *The African digital commons: A participant's guide: 2005*. Johannesburg: LINK Centre, University of the Witwatersrand.

Armstrong, C., De Beer, J., Kawooya, D., Prabhala, A., & Schonwetter, T. (Eds.). (2010). *Access to knowledge in Africa: The role of copyright*. Cape Town: UCT Press.

Barton, J. H. (2007). *Intellectual property and access to clean energy technologies in developing countries: An analysis of solar photovoltaic, biofuel and wind technologies*. Trade and Sustainable Energy Series, Issue Paper No. 2. Geneva: International Centre for Trade and Sustainable Development (ICTSD).

Benkler, Y. (2002). Coase's penguin, or, Linux and the nature of the firm. *Yale Law Journal, 112*(3), 369-446. Retrieved from http://www.yalelawjournal.org/article/coases-penguin-or-linux-and-the-nature-of-the-firm

Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. New Haven, CT: Yale University Press.

Berlin Declaration. (2003). Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities. Retrieved from http://openaccess.mpg.de/Berlin-Declaration

Boyle, J. (2003). The second enclosure movement and the construction of the public domain. *Law and Contemporary Problems, 66*, 33-74.

Boyle, J. (2008). *The public domain: Enclosing the commons of the mind*. London: Yale University Press.

Budapest Open Access Initiative. (2002). Available at http://www.budapestopenaccessinitiative.org/read

Cape Town Declaration (2007). Cape Town Open Education Declaration. Retrieved from http://www.capetowndeclaration.org/read-the-declaration

Castells, M. (2000). *The rise of the network society* (2nd ed.) West Sussex, UK: Blackwell.

Cimoli, M., Dosi, G., Maskus, K. E., Okediji, R. L., Reichman, J. H., & Stiglitz, J. E. (2014). The role of intellectual property rights in developing countries: Some conclusions. In M. Cimoli, G. Dosi, K. E. Maskus, R. L. Okediji, J. H. Reichman, & J. Stiglitz (Eds.) (2014), *Intellectual property rights: Legal and economic challenges for development.*, Oxford: Oxford University Press.

Commission on Intellectual Property Rights (CIPR). (2002). *Integrating intellectual property rights and development policy*. London: CIPR, UK Government.

Commonwealth of Learning (CoL). (2005). *Document for Commonwealth countries on copyright matters in education*. Drafted 20-21 May, Johannesburg.

Correa, C. M. (2000). *Intellectual property rights, the WTO and developing countries: The TRIPS agreement and policy options*. London and Penang: Zed Books and Third World Network.

De Beer, J. (Ed.) (2009). *Implementing the World Intellectual Property Organisation development agenda*. Ottawa: International Development Research Centre (IDRC).

De Beer, J., & Bannerman, S. (2013). Access to knowledge as a new paradigm for research on ICTs and intellectual property. In Elder, L., Emdon, H., Fuchs, R., & Petrazzini, B. (Eds.), *Connecting ICTs to development: The IDRC experience*. London and Ottawa: Anthem Press and International Development Research Centre (IDRC).

De Beer, J., Armstrong, C., Oguamanam, C., & Schonwetter, T. (Eds.). (2014). *Innovation and intellectual property: Collaborative dynamics in Africa*. Cape Town: UCT Press.

Deere, C. (2009). *The implementation game: The TRIPS Agreement and the global politics of intellectual property reform in developing countries*. Oxford: Oxford University Press.

Draft Treaty on A2K. (2005). Retrieved from http://www.cptech.org/a2k/a2k_treaty_may9.pdf

Drahos, P., & Braithwaite, J. (2002). *Information feudalism: Who owns the knowledge economy?* London: Earthscan.

Elahi, S., & De Beer, J. (2013). *Knowledge and innovation in Africa: Scenarios for the future* (with D. Kawooya, C. Oguamanam, & N. Rizk). Cape Town: Open AIR.

Geneva Declaration. (2004). Geneva Declaration on the Future of the World Intellectual Property Organisation. Retrieved from http://www.futureofwipo.org/futureofwipodeclaration.pdf

Gray, E., Rens, A., & Bruns, K. (2010). *Publishing and alternative licensing models in Africa: Comparative analysis of the South African and Ugandan PALM studies*. Cape Town: The Association for Creative Research and Development (Creative R&D).

iCommons. (2007). *iCommons annual 2007*. Johannesburg.

iCommons. (2008). *iCommons annual 2008*. Johannesburg.

Idris, K. (2003). *Intellectual property: A power tool for economic growth*. Geneva: World Intellectual Property Organisation (WIPO).

International Covenant on Economic, Social and Cultural Rights (1966).

International Telecommunication Union (ITU). (2003). *Declaration of principles: Building the information society: A global challenge in the new millennium*, 13 December. Geneva: World Summit on the Information Society (WSIS).

Kapczynski, A. (2010). *Access to knowledge: A conceptual geneology*. In G. Krikorian, & A. Kapczynski (Eds.), *Access to knowledge in the age of intellectual property* (pp. 17-56). New York: Zone Books.

Karaganis, J. (Ed.). (2011). *Media piracy in emerging economies*. New York: Social Science Research Council (SSRC).

Khor, M. (2012). *Climate change, technology and intellectual property rights: Context and recent negotiations*. Research Paper 45. Geneva: South Centre.

Krikorian, G., & Kapczynski, A. (Eds.) (2010). *Access to knowledge in the age of intellectual property*. New York: Zone Books.

Lessig, L. (2004). *Free culture: How big media uses technology and the law to lock down culture and control creativity*. New York: The Penguin Press.

May, C. (2000). *The global political economy of intellectual property rights: The new enclosures*. London: Routledge.

May, C. (2010). *The global political economy of intellectual property rights: The new enclosures* (2nd ed.). London: Routledge.

New, W. (2015). WTO IP committee suspended over LDC extension. *Intellectual Property Watch*, 17 October. Retrieved from http://www.ip-watch.org/2015/10/17/wto-ip-committee-suspended-over-ldc-extension

Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge, UK: Cambridge University Press.

Prabhala, A. (2005). *Economic analysis of income and expenditure patterns in South Africa: Implications for the affordability of essential learning materials*. Johannesburg: Access to Learning Materials in Southern Africa Project (A2LMSA).

Ramcharan, R. (2013). *International intellectual property law and human security*. The Hague: TMC Asser Press.

Rens, A., Prabhala, A., & Kawooya, D. (2006). *Intellectual property, education and access to knowledge in Southern Africa*. Stellenbosch and Geneva: Trade Law Centre for Southern Africa (TRALAC), International Centre for Trade and Sustainable Development (ICTSD), and UN Conference on Trade and Development (UNCTAD).

Rens, A., & Kahn, R. (2009). *Access to knowledge in South Africa: Country study version 2.0*. Retrieved from http://ssrn.com/abstract=1455623

Rimmer, M. (2011a). *Intellectual property and climate change: Inventing clean technologies*. Cheltenham, UK: Edward Elgar.

Rimmer, M. (2011b). Climate justice for intellectual property at Durban. *The Conversation*. http://theconversation.com/climate-justice-for-intellectual-property-at-durban-4572

Rimmer, M. (2014). Intellectual property and global warming: Climate justice. In M. David & D. Halbert (Eds.), *The SAGE handbook of intellectual property* (pp. 727-753). Los Angeles: SAGE.

Rizk, N., & Shaver, L. (2010). *Access to knowledge in Egypt: New research on intellectual property, innovation and development*. London: Bloomsbury Academic.

Schonwetter, T. (2005). *The implications of digitizing and the Internet for "fair use" in South Africa*. Master's thesis, Faculty of Law, University of Cape Town.

Schonwetter, T. (2009). *Safeguarding a fair copyright balance – contemporary challenges in a changing world: Lessons to be learnt from a developing country perspective*. PhD thesis, Faculty of Law, University of Cape Town.

Sell, S. K. (2003). *Private power, public law: The globalization of intellectual property rights*. Cambridge, UK: Cambridge University Press.

Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.

Shaver, L. (Ed.). (2008). *Access to knowledge in Brazil: New research on intellectual property, innovation and development*. New Haven. CT: Information Society Project, Yale Law School.

Subramanian, R., & Shaver, L. (2011). *Access to knowledge in India: New research on intellectual property, innovation and development*. London: Bloomsbury Academic.

The Southern African Journal of Information and Communication (SAJIC). (2006). Special issue on intellectual property rights and creating an African digital information commons. Issue 7. Johannesburg: LINK Centre, University of the Witwatersrand (Wits).

't Hoen, E. F. M. (2003). *TRIPS, pharmaceutical patents and access to essential medicines: Seattle, Doha and beyond*. Geneva: World Health Organisation. Retrieved from http://www.who.int/intellectualproperty/topics/ip/tHoen.pdf

Trotter, H., Kell, C., Willmers, M., Gray, E., & King, T. (2014). *Seeking impact and visibility: Scholarly communication in Southern Africa*. Cape Town: African Minds.

United Nations (UN). (1992). UN Framework Convention on Climate Change (UNFCCC).

UN Commission on Human Security. (2003). *Human security now*. New York: United Nations.

UN Development Programme (UNDP). (1994). *Human development report 1994*. New York: United Nations.

World Intellectual Property Organisation (WIPO). (2013). Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled.

World Intellectual Property Organisation (WIPO) General Assembly. (2004). Proposal by Argentina and Brazil for the establishment of a development agenda for WIPO, 27 August.

WIPO General Assembly. (2007). The 45 adopted recommendations under the WIPO Development Agenda.

World Trade Organisation (WTO). (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).

WTO. (2001). Declaration on the TRIPS Agreement and Public Health. Adopted by WTO Ministerial Conference, 14 November, Doha (Doha Declaration).

WTO Council for TRIPS. (2014). Extract from minutes of meeting of the Council for Trade-Related Aspects of Intellectual Property Rights, 11 June. Retrieved from https://www.wto.org/english/tratop_e/trips_e/june2014_on_climate_e.pdf

FARMERS' AND BREEDERS' RIGHTS: BRIDGING ACCESS TO, AND IP PROTECTION OF, PLANT VARIETIES IN AFRICA

Peter Munyi
PhD Candidate, Law and Governance Group, Wageningen University, The Netherlands

Bram De Jonge
Postdoctoral Researcher, Law and Governance Group, Wageningen University, The Netherlands; and Intellectual Property Unit, Faculty of Law, University of Cape Town

ABSTRACT
Studies in Africa have shown that saving, using, exchanging and selling farm-saved seed is the main channel through which farmers access seed and planting material. Moreover, these saving and related practices are recognised in international law, mainly through the International Treaty on Plant Genetic Resources for Food and Agriculture (Plant Treaty), which many African countries have ratified. These practices are also recognised by, inter alia, obligations at the national level to protect traditional knowledge relevant to seeds and planting material. The standard being employed in developing plant variety protection (PVP) mechanisms in Africa, as with elsewhere in the world, is the 1991 revision of the Convention of the International Union for the Protection of New Varieties of Plants (UPOV, 1991). This Convention has, since its inception, been developed with reference to developed-world farming practices. This article looks at how farmers' rights are enshrined in Africa's legal frameworks, and the extent to which the current process of developing regional PVP systems on the continent is taking farmers' rights into account. The article then makes recommendations on how a balance can be struck between farmers' and breeders' rights, while still complying with the UPOV 1991 framework.

KEYWORDS
breeders' rights, farmers' rights, intellectual property, plant varieties, plant variety protection (PVP), smallholder farmers

INTRODUCTION

Seeds are a carrier of genetic information that is often associated with traditional or scientific knowledge. Access to seeds and the liberty to work and adjust the information they entail – by means of crossing and selection – is inherent to farming anywhere in the world, but in particular in those places where breeding companies are few. This is especially the case in Africa, where most farmers are smallholders and farming is typically for subsistence and in support of the local community. For these farming communities, seed is considered a common resource that farmers save and exchange amongst each other every cropping cycle. At the same time, advances that professional plant breeders have made in developing planting material that is able to overcome biotic and abiotic stress have brought about the idea to protect plant varieties through intellectual property rights (IPRs), specifically plant breeders' rights, also known as plant variety protection (PVP). PVP is a tool through which a plant breeder is able to control market access to seeds and planting material for a new plant variety. These breeders' rights, secured via PVP, are controversial because they conflict, to some extent with farmers' rights, particularly in the smallholder contexts typical of Africa.

THE BEGINNINGS OF PLANT VARIETY PROTECTION (PVP)

The idea that the efforts made by plant breeders, when developing new varieties of plants, should be recognised and given limited protection via plant varieties protection (PVP) is relatively new when compared to protection of other intellectual creations. In Europe, the rediscovery of Mendel's laws of heredity in 1900, which created a better understanding of plant breeding, also generated a greater interest in crop improvement by the scientific community (Louwaars et al., 2013). This re-discovery heightened awareness of the lack of legal protection of the inventions by plant breeders and appears to have contributed to calls in the early 20th century – for example, at the Pomological Society in France in 1904 (Llewelyn & Adcock, 2006) and at the Horticultural Congress in Paris in 1919 (Bos, 1920; Heitz, 1987) – for rights of plant breeders to be protected. The myriad responses to this call were a mix of tools such as a breeder's seal based on trademark law in Germany, and prizes for good new varieties in the Netherlands.

However, it was not until the 1940s that the first *sui generis* PVP systems were created in the Netherlands, and thereafter in Austria and Germany, providing for protection based on fulfilment of requirements distinct and different from those for other IP protections (chiefly patents, copyrights and trademarks).

In 1961, a harmonised system for PVP was created by a few European countries, who came together as the International Union for the Protection of New Varieties of Plants (UPOV), under the International Convention for the Protection of New Varieties of Plants (UPOV, 1961). This system adopted criteria for protection of new varieties of plants that had earlier been established in European countries, with a key provision being that for a new plant variety to qualify for protection, it had to be new, distinct, uniform and stable (UPOV, 1961). Another important feature of the new IP system was the breeders' exemption, which entailed that anyone was allowed to use a protected variety for the purpose of breeding a new variety. (This recognised the incremental nature of plant breeding, which relies on access to the latest improvements and variations.) The criteria for protection, and the breeders' exemption, have in principle remained unchanged since 1961, notwithstanding the UPOV Convention's revisions in 1972, 1978 and 1991.

However, while the criteria for protection have remained a constant during the revisions of the UPOV Convention, the scope of rights granted to the breeder has widened over time, particularly in the 1991 revision of the Convention. The 1991 revision, for example, narrowed the breeders' exemption by requiring right-holder authorisation when a new variety is "essentially derived" from a protected variety, i.e., if the new variety is very similar to the parent variety or if one requires the repeated use of the protected variety for producing the new variety (UPOV, 1991, Art. 14.5). Even more significantly for farmers, the expanded scope of the breeders' right under Article 14.1 of UPOV 1991 covers any form of "production or reproduction (multiplication), conditioning for the purpose of propagation, offering for sale, selling or marketing, exporting, importing, or stocking for any of the above purposes". This scope is much broader than that under Article 15.1 of UPOV 1978, which, under the breeders' right, only protected the production for purposes of commercial marketing, the offering for sale and the marketing of the reproductive or propagating material, i.e., the seed.[1] In other words, the scope of the right under UPOV 1991 has now extended to include any use of the protected variety for propagation purposes while under UPOV 1978 it only extended to commercial marketing of seed. In addition, the duration for the grant of the right has lengthened over time. Initially, the right conferred was for a period of 15 years, under Article 8 of UPOV 1961. This duration remained unchanged in UPOV 1972 and UPOV 1978. However, under Article 19.2 of UPOV 1991, the minimum period for protection is 20 years.

UPOV 1978 was understood to implicitly allow farmers to use and exchange, on a non-commercial scale, seed of a protected variety, while these acts explicitly fall under the breeders' right under UPOV 1991. To compensate for this broader scope of protection, UPOV 1991 provides for an optional farmer's privilege exemption, in Article 15.2. This privilege provides that at the discretion of a member country, farmers may be allowed to save and re-use seed on their own holdings, within reasonable limits and subject to safeguarding the legitimate interests of the right-holder. Breeders' rights have also been advanced by other international trade rules, particularly those of the World Trade Organisation (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Adopted in 1994, TRIPS, through its Article 27.3(b), makes it mandatory for IP protection to be provided to plant varieties "either by patents or by an effective sui generis system or by any combination thereof".

TRIPS does not provide template legislation for protection of plant varieties, meaning that countries can develop their own legal frameworks for the protection of plant varieties. Also, least developed countries (LDCs), 34 of which are in Africa, have until 2021 to comply with the TRIPS provisions (or until the moment they cease to be LDCs).[2] Despite the apparent freedom under TRIPS for countries to adopt *sui generis* PVP frameworks and, in the case of LDCs, to delay PVP implementation, the UPOV system has emerged as the de facto system to extend IP protection to plant varieties in in Africa, in line with practices elsewhere in the developing world and also in the developed world (Munyi, 2015). As a result, what was initially a Eurocentric, developed-world system for PVP is now widely utilised in countries with vastly different economic, social and cultural conditions from those that exist in Europe.

BIOLOGICAL DIVERSITY AND FARMERS' RIGHTS

Parallel to the progression in granting of breeders' rights were two separate but related discussions at the United Nations regarding protection of the environment, including conservation and sustainable use of biological diversity. One forum, led by the UN Environment Programme (UNEP), focused on conservation and sustainable use of biological diversity, while the other, led by the UN Food and Agriculture Organisation (FAO), dealt specifically with plant genetic resources for food and agriculture (PGRFA).

Recognition of a common and global need to conserve and sustainably use the earth's resources was concretised by the 1972 Declaration of the UN Conference on the Human Environment. Principle 2 of this Declaration is categorical in stating that "[t]he natural resources of the earth [...] must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate." This Declaration, followed by the subsequent recognition that biological diversity is a global asset of tremendous value to present and future generations, and recognition of the continued threat to species and ecosystems caused by, inter alia, human activities, led UNEP in 1988 to convene a working group of experts on biological diversity to explore the need for an international convention on biological diversity. The work of the working group ultimately culminated with the adoption of the Convention on Biological Diversity, an instrument that later on opened for signature at the Rio Earth Summit, and finally entered into force in 1993. This Convention "[r]epresents a dramatic step forward in the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources" (CBD, n.d.).

Previous to the CBD, an International Undertaking on Plant Genetic Resources for Food and Agriculture (PGRFA) had in 1983 been adopted under the auspices of the FAO. Despite being voluntary in nature, this Undertaking was "adhered" to by 113 countries (Moore & Tymowski, 2005). Its objective, as stated in Article 1, was "[t]o ensure that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes. This Undertaking is based on the universally accepted principle that plant genetic resources are a heritage of mankind and consequently should be made available without restriction."

The fact that this International Undertaking was in place at the adoption of the CBD led the negotiating countries to recognise the need to seek solutions to outstanding matters concerning PGRFA, such as access to ex situ collections (e.g., gene banks) not addressed by the CBD and the realisation of farmers' rights. The task of steering negotiations on these outstanding issues was bestowed upon the FAO, culminating after several years in adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA, or Plant Treaty) in 2001, which entered into force in 2004.

1 In this paper, we use the term "seed" to refer to any kind of plant reproductive material, including seeds, cuttings, tubers, etc.

2 This transition period can be further extended according to Article 66.1 of the TRIPS Agreement (see WTO (2013)).

One key component of the Plant Treaty is its explicit reference to farmers' rights and affirmation of the contributions of local and indigenous communities and farmers to the conservation and development of PGRFA as a basis for food and agricultural production. Article 9 of the Plant Treaty places the responsibility for realising farmers' rights on national governments and enumerates some of the measures that countries may take to realise these rights. These measures may include protection of traditional knowledge relevant to PGRFA; the right to equitably participate in sharing benefits arising from the utilisation of PGRFA; and the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA. For the first time, therefore, farmers' rights were, via the Plant Treaty, recognised in an international treaty, making them part of international law.

FARMERS' VERSUS BREEDERS' RIGHTS

At the international level, therefore, TRIPS makes it mandatory for countries wishing to participate in international trade to provide for IP protection in relation to new varieties of plants. Complementary to TRIPS, the UPOV system not only provides for a framework for protection of new varieties of plants but also frames PVP in a manner that limits the exchange and trade of protected material between farmers, and only allows for the use of farm-saved seed to a limited extent. This is despite the fact that these farming practices are considered "fundamental to the realization of farmers' rights" in the preamble to the Plant Treaty. Indeed, the final provision of the Plant Treaty's Article 9 on farmers' rights states that "[n]othing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate". Despite this apparent conflict between the Plant Treaty and UPOV 1991 regarding the freedoms farmers can exercise in relation to protected plant varieties, the official UPOV view is that these two conventions are not in conflict (UPOV, n.d.)

This conflict between the Plant Treaty and UPOV 1991 presents real challenges to countries in their quest to implement farmers' rights, a fact acknowledged by the Governing Body to the Plant Treaty in its various resolutions.[3] Despite the Governing Body's continued calls for countries to submit statements of their views and experiences on implementation of farmers' rights, only three out of 153 contracting countries – Madagascar, Norway and Poland – have made submissions (ITPGRFA, n.d.). However, civil society organisations, farmers' groups and seed associations have been active in providing inputs to the Governing Body on the implementation of farmers' rights in the communities and countries they operate in (including from countries that are not contracting parties to the Plant Treaty). According to the submissions made, the prime concern appears to be lack of guidance and support (from international level) on how to develop or adjust national legislation, policies, strategies and programmes for the realisation of farmers' rights. A particular concern is how to ensure or re-establish sufficient legal space within seed laws and IP legislation to enable farmers to continue conserving, developing and sustainably using the diversity of plant genetic resources.

The concerns specific to the African context are outlined in the next section of this article. Following on from that is a section looking at how the tensions can be bridged between farmers' access to, and breeders' protection of, new plant varieties. The final section provides conclusions.

THE AFRICAN PVP CONTEXT

The agricultural sector in most African countries looks very different from those in developed countries (whose characteristics informed the negotiation and adoption of the UPOV Conventions). Across sub-Saharan African nations, 82% of all farms are smaller than two hectares (Lowder et al., 2014), but at the same time, these small farms contribute up to 90% of food production in some of these countries (Wiggins, 2009).

Smallholder farmers are strongly dependent on their customary practices of saving, exchanging and selling farm-saved seed amongst each other and at local markets (Maredia et al., 1999). According to the World Bank (2008), this "informal" system plays an important role in fulfilling seed demand as it often safeguards the availability and affordability of seed – because the "formal" sector can, on average, only cater for less than 20% of total seed demand for food crops in African countries. Also, in order to get access to improved varieties developed by public or private breeding institutions, smallholder farmers acquire seed mainly through informal channels (Louwaars & De Boef, 2012). Furthermore, according to Lipper, Anderson and Dalton (2010), in addition to "over-the-fence" exchanging of farm-saved seed, many farmers earn a small amount of extra income by selling their surplus seed at the local grain markets after a good season.

The above notwithstanding, agriculture is a key provider of incomes and livelihoods on the African continent (World Bank, 2008). Yet the continent provides only a very insignificant market for global seed companies,[4] because for most African countries, breeding activities are public-sector-led – as opposed to the situation in Europe where seed-breeding and seed production have historically been perceived as business activities and are carried out by the private sector (Louwaars et al., 2013).

Until recently, very few African countries – Kenya, Morocco, South Africa, Tanzania, Tunisia and Zimbabwe – had an operational PVP system in place, and granting of plant breeders' rights was thus largely an alien concept. The increased adoption of PVP by African countries in recent years has been driven by several factors. First, there has been the aforementioned influence of the WTO TRIPS Agreement. Second, adoption of PVP has been found to attract foreign direct investment in some agricultural sectors (UPOV, 2005). Third, as illustrated by the wording of the preamble to the 2015 Arusha Protocol for the Protection of New varieties of Plants as adopted by the African

3 See, for example, ITPGRFA Governing Body Resolution 2/2007 (ITPGRFA Governing Body, 2007).

4 According to International Seed Federation (ISF) estimates for the value of the domestic seed market in selected countries in 2011, Africa provided only 3% of a USD30 billion global market. See ISF (2012a, 2012b).

Regional Intellectual Property Organisation (ARIPO), plant varieties protection is being positioned as serving as a basis for farmers and breeders to obtain new and improved planting materials. Accordingly, several PVP systems have emerged on the continent, at both regional and national levels (Arusha Protocol, 2015).

AFRICAN PVP INSTRUMENTS

For the Francophone countries of West and Central Africa who belong to the Organisation Africaine de la Propriété Intellectuelle (OAPI),[5] a PVP registration system has been in existence since the 1999 revision of the OAPI Bangui Agreement. Known as Annex X of the 1999 Revised Bangui Agreement, this PVP system (operationalised in 2006) provides a mechanism in which an application for PVP made through the system applies to all 17 OAPI Member States. This system is modelled in line with UPOV 1991. As at 2012, only 12 PVP certificates had been granted under this system. All grantees were public agricultural research institutions from OAPI states, and of the 12 grants, 10 were in relation to trees and two were for agricultural crops (Mahop et al., 2013).

In July 2015, ARIPO adopted the Arusha Protocol, modelled around UPOV 1991 standards. Another regional PVP system, similarly modelled around UPOV 1991, is currently being negotiated under the aegis of the Southern African Development Community (SADC). These two regional blocs (ARIPO and SADC) have a combined membership of 25 countries, some of whom already have national PVP registration systems in place.[6] Yet only three of these 25 countries, Kenya, South Africa and Tanzania, are required, as UPOV Member States, to follow UPOV standards. (Kenya and South Africa have subscribed to UPOV 1978. In 2012, Kenya revised its legislation in an attempt to upgrade to UPOV 1991 standards, and South Africa is, at the time of writing in 2015, engaged in a similar process. Tanzania's legislation complies with UPOV 1991 standards, and in October 2015, the country deposited an instrument of accession to UPOV. Tanzania became a party to UPOV on 22 November 2015).

Several criticisms have been levelled against the PVP systems either already in operation or under development in Africa, mostly by civil society organisations. First, there is the criticism that since these systems are based on UPOV 1991 standards, they are not designed to serve the needs of African farmers, who are mostly smallholders. Key to this criticism is the aforementioned reality that these farmers depend strongly on informal sources of seed to assure the availability and affordability of both traditional and improved plant varieties. As stated above, UPOV 1991 limits the possibilities for farmers to use, exchange and trade farm-saved seed of protected varieties.

The second criticism is that the existing UPOV-modelled regional and national PVP systems appear not to be acting as incentives for investment in plant-breeding. As stated above, since the OAPI system was operationalised in 2006, only 12 grants have been made across 17 countries and mostly for trees, not agricultural crops (Mahop et al., 2013). Also notable is the fact that in the countries with national systems in place, most of the applicants for registration of PVP are foreign, not local[7] – potentially a positive indicator for proponents of foreign direct investment, but a negative indicator for civil society organisations prioritising local investment in support of local farmers.

A third criticism relates to the criteria for protection, which are based on the standards for novelty, distinctness, uniformity and stability as set out in UPOV 1991. Civil society organisations question the appropriateness of these criteria in sub-Saharan Africa for several reasons:

- the novelty requirement focuses exclusively on commercial novelty;
- the distinctness requirement contains a very low threshold for inventiveness;
- the uniformity requirement could lead to erosion of genetic diversity and thus increased genetic vulnerability; and
- the uniformity and stability requirements make it extremely difficult for farmer varieties to be eligible for protection (De Jonge, 2014).

Another set of criticisms relate to African PVP systems' approach to farmers' rights. First, it is felt that the rights of farmers are generally marginalised and subordinated to the rights of breeders, as seen in most of the national and regional PVP instruments already in place or under development (De Jonge, 2014). This argument finds its authority in the fact that while 19 out of the 25 countries that are members of ARIPO and SADC are parties to the Plant Treaty, the Arusha Protocol and SADC Draft Protocol do not reflect any specific measures to protect and promote farmers' rights (in spite of provisions of that sort existing in the Plant Treaty).

Second, some commentators argue that the African regional PVP systems lack concrete mechanisms to prevent misappropriation of genetic resources and associated traditional knowledge. In fact, there is some concern that the regional PVP regimes will actually facilitate such misappropriation, arguing that foreign breeding companies can apply for exclusive rights on new varieties that may well have been created through use of local germplasm (De Jonge, 2014). A third set of criticisms, which are being levelled against the recently adopted Arusha Protocol under ARIPO and against the SADC PVP system currently under development, relates to uncertainty whether or not the new instruments, once they come to force, will confer rights directly to individuals in the Member States without requiring domesticating national laws to be put in place (Munyi et al., forthcoming). Also unclear is how the regional PVP systems are intended to interact with national PVP systems already in place in ARIPO and SADC countries (Munyi et al., forthcoming).

---

5 OAPI member states are Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Republic of Congo, Senegal and Togo.

6 The countries with national PVP registration systems in place are Kenya, Mozambique, South Africa, Tanzania, Zambia, Zimbabwe and, most recently, Uganda.

7 For example, according to UPOV statistics, in 2013 only two out of 56 applications in Morocco, nine out of 95 applications in Kenya, and 91 out of 309 applications in South Africa, were filed by residents (UPOV, 2014).

FARMERS' RIGHTS IN AFRICA

One of the earliest measures in support of farmers' rights in Africa was under the auspices of the Organisation of African Unity (the precursor to today's African Union), which in 2000 adopted the African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (African Model Law). The African Model Law sought to recognise, protect and support the inalienable rights of local communities, including farming communities, over their biological resources, knowledge and technologies, and also to recognise and protect both farmers and breeders. In a nutshell, this model legislation sought to provide guidance on how a balance could be struck between the rights of farmers (and farming communities) on one hand and those of breeders on the other. As an example of that balance, the African Model Law provides, in Article 26(1), that farmers can "collectively save, use, multiply and process farm-saved seed of protected varieties" but cannot sell farm-saved seed of a protected variety on the seed industry on a commercial scale.

In spite of existence of these provisions in the African Model Law, they are for the most part not found in the existing national PVP legislation of African countries, creating the impression that the Model Law has largely been ignored (De Jonge, 2014). However, there has been renewed interest in the Model Law since the adoption of the Nagoya Protocol on Access and Benefit-sharing in 2010 (a supplementary agreement to the Convention on Biological Diversity). The Nagoya Protocol requires countries to take into account already existing access and benefit-sharing measures such as those set out by the Plant Treaty, and also the special nature of PGRFA, in implementing the Protocol at the national level. Accordingly, the meeting of the African Ministerial Conference on the Environment (AMCEN) in Cairo in March 2015 adopted a set of guidelines on the coordinated implementation of the Nagoya Protocol in Africa. These guidelines seek to complement and build upon the African Model Law.

Also relevant to African farmers' rights is the ARIPO Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore (which was adopted in 2010 and came into force on 11 May 2015), and a similar instrument adopted by OAPI in 2007. The two instruments, both seeking to protect traditional knowledge and expressions of folklore are similar in substance (Sackey & Kasilo, 2010).[8] The only provision dealing with protection of farmers' rights in the Swakopmund Protocol – a provision that, it could be argued, is in parlance with a similar provision in the Plant Treaty – is Article 15 dealing with protection of traditional knowledge associated with genetic resources, which reads as follows: "Authorization under this Protocol to access protected traditional knowledge associated with genetic resources shall not imply authorization to access genetic resources derived from the traditional knowledge" (Swakopmund Protocol, 2010). Even if this Swakopmund Protocol provision is construed as representing one of the measures provided under the Plant Treaty for protecting farmers' rights, the Protocol does not provide the other farmer' rights provided for in the Treaty.

Another forum where matters of African farmers' rights are dealt with is the meetings of the Governing Body of the Plant Treaty since the Treaty came into force in 2004. The Governing Body has, since 2007, through various resolutions, solicited views, experiences and best practices on implementation of farmers' rights from the Treaty's Contracting Parties and relevant organisations, in recognition of the uncertainty in many countries regarding implementation of farmers' rights. As noted above, the response by countries to these calls by the Governing Body has been poor.

However, efforts that countries have made in implementation of farmers' rights can be discerned from a report arising from a global consultation survey and conference on farmers' rights held in 2010 (Andersen & Winge, 2011; ITPGRFA Governing Body, 2011). African respondents to the survey and conference held a common view that farmers' rights are important in the maintenance of traditional seed systems and in decreasing the vulnerability of African smallholder farmers to food insecurity (Andersen & Winge, 2011). Also mentioned in the survey responses was the pronounced loss of plant varieties and traditional knowledge, and the need to reverse this trend. In terms of achievements made on realisation of farmers' rights, African respondents mentioned, inter alia, increased awareness of traditional knowledge and benefit-sharing, and a greater number of government-run programmes related to farmer participation in decision-making on seed practices. However, no African respondent mentioned adoption and implementation of relevant legislation as an achievement. Andersen and Winge (2011, p. 23) observe that only one stated that the country has good laws, and even in that case the respondent added that "their application remain irrelevant".

Andersen and Winge (2011) further state that the African respondents also pointed to a number of obstacles to the realisation of farmers' rights in their countries, including:

- lack of awareness by farmers of their rights;
- lack of awareness of farmers' rights among policymakers and government officials;
- legislation and policies that are counterproductive to the realisation of farmers' rights;
- domination of the agenda by the interests of large-scale and commercial farmers;
- lack of land rights;
- disagreements between breeders and farmers; and
- corruption.

While some of these cited obstacles are not uniquely African, a picture emerges of African countries as largely helpless in progressing farmers' rights.

8 The backdrop to these ARIPO and OAPI instruments is the ongoing work towards development of instruments by the World Intellectual Property Organisation (WIPO) Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, www.wipo.int/tk/en/igc

BRIDGING AFRICAN FARMER ACCESS WITH BREEDER IP PROTECTION

In seeking ways in which African countries can balance recognition and implementation of both farmers' rights and breeders' rights in their PVP systems, a limitation that immediately arises relates to the scope of the two sets of rights.

Farmers' rights and breeder's rights are separate and different, with farmers' rights encompassing broader issues, some of which have little if anything to do with IP per se. An example is the farmer's right to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA, as provided for in the Plant Treaty. Not surprisingly, no equivalent right exists in PVP legislation.

Meanwhile, the protection of traditional knowledge relevant to PGRFA, and the right to equitably participate in sharing of benefits arising from utilisation of PGRFA, are farmers' rights but at the same time indirectly relate to breeders' rights. Despite the fact that these rights are not further defined or explained in the Plant Treaty, they seem to imply that farmers should be consulted and compensated if a newly protected variety has been developed through direct use of their traditional knowledge or traditional varieties.

The component of farmers' rights that is in direct clash with breeders' rights is the right that farmers have to save, use, exchange and sell farm-saved seed. This is the issue for which bridging mechanisms are now explored in the remainder of this section.

While a number of countries not party to the UPOV Convention, in both Africa and Asia, have taken steps to create a bridge between access to and protection of plant varieties,[9] in this article we focus on some provisions within UPOV 1991 itself that could potentially act as such a bridge. Our main motivation for this limited focus is that current developments in Africa suggest that most of the continent may well be adhering to UPOV 1991 standards in the not too distant future.

Before delving into the discussion about the provisions in UPOV 1991 that may facilitate bridging between farmers' and breeders' rights, it is important to re-state that the use, exchange and sale of farm-saved seed between farmers and at local markets play an important role in fulfilling seed demand for the vast majority of farmers on the African continent. These practices are not permitted in terms of UPOV 1991, unless under authorised and limited conditions. It is in this context, therefore, that we now explore two provisions of UPOV 1991 that can possibly be exploited in order to bridge access to, and protection of, plant varieties in Africa. The two elements – (1) the farmer's privilege, and (2) private, non-commercial use – are part of the exceptions to the breeders' right under article 15 of UPOV 1991.

THE FARMER'S PRIVILEGE EXCEPTION

The farmer's privilege exception (Article 15.2) provides that

> each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interest of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety […]. (UPOV, 1991)

As stated above, this optional exception is formulated very narrowly and only permits farmers to use farm-saved seed on their own holding, not allowing for the exchange (or sale) of farm-saved seed amongst farmers. In addition, the recommendations of the Diplomatic Conference for the Revision of the International Convention for the Protection of New Varieties of Plants (UPOV, 1992) state that the farmer's privilege

> should not be read so as to be intended to open the possibility of extending the practice [i.e., using farm-saved seed] […] to sectors of agricultural or horticultural production in which such privilege is not a common practice on the territory of the Contracting Party concerned. (UPOV, 1992)

As such, the farmer's privilege should only target those crops where, for a country concerned, there is and has been a common practice of farmers using farm-saved seed for further propagation.

Furthermore, the UPOV Council's 2009 Explanatory Notes on Exception to the Breeder's Right carefully stipulate how Contracting Parties can establish "reasonable limits" and safeguard the "legitimate interest of the breeder". For example, a country could choose to specify the maximum percentage of the harvested crop that the farmer may use for further propagation. A standard procedure to safeguard the breeders' interests is the requirement that a farmer using farm-saved seed of a protected variety pays an equitable remuneration to the breeder of that variety. This implies that a farmer has to pay a reduced royalty (often 50%) in comparison to the full royalty that is included in the price of seed as sold by a seed company (Ghijsen, 2007).

The only flexibility under the UPOV farmers' privilege that is offered to smallholder farmers relates to the level of remuneration to be paid to the breeder. The UPOV Council (UPOV, 2009) provides that "small farmers" with smallholdings (or small areas of crop) might be permitted to use farm-saved seed to a different extent and with a different level of remuneration to breeders than "large farmers". This approach has, for example, been applied by Article 14 of the European Council Regulation on Community Plant Variety Rights, which exempts small farmers from remuneration, with small farmers defined as farmers who do not grow plants on an area bigger than that which would be needed to produce 92 tonnes of cereal, or comparable criteria for other plant species.

9 These include Ethiopia, Zambia, India and Malaysia.

ARIPO's Arusha Protocol contains a similar approach in implementing the farmer's privilege. First, in Article 22(2), it provides that agricultural crops and vegetables for which there is a common historical practice of saving seed will be subject to the farmer's privilege exception, with the exception of fruits, ornamental plants and forest trees. Second, in Article 22(3), the draft Protocol provides that the conditions for implementing the farmers' privilege exception – e.g., the variance in level of remuneration to be paid by small- versus large-scale commercial farmers shall be stipulated in regulations linked to the Protocol. As such, the Arusha PVP Protocol seems to ignore the needs of smallholder farmers that strongly depend on the exchange and trade of farm-saved seed to fulfil their seed demand. This can hamper the accessibility and affordability of new but protected varieties for those farmers, which may need them the most. Under pressure from civil society organisations, SADC has included a broader definition of the farmers' privilege (Alliance for Food Sovereignty in Africa, 2014). Article 28(d) of the May 2014 Draft Protocol on PVP formulates the farmer's privilege as follows:

> acts done by a farmer to save, use, sow, re-sow or exchange for non-commercial purposes his or her farm produce including seed of a protected variety, within reasonable limits subject to the safeguarding of the legitimate interests of the holder of the breeder's right. The reasonable limits and the means of safeguarding the legitimate interests of the holder of the breeder's right shall be prescribed. (SADC Draft Protocol, 2014)

Here, the draft SADC Protocol goes a step further than ARIPO's Arusha Protocol in that the farmers' privilege also includes the "exchange for non-commercial purposes" in the scope of the exception. This is a possible way of reformulating the UPOV farmers' privilege in order to bridge access to, and protection of, plant varieties in the SADC region. However, given the fact that the reformulated exemption clearly deviates from the parameters of the exemption formulated in the UPOV 1991 Convention, it may not be approved by the UPOV Council in the event that SADC wants to become a member of UPOV.

THE PRIVATE AND NON-COMMERCIAL USE EXCEPTION

Article 15(1)(i) of UPOV 1991 provides that the breeder's right shall not extend to "acts done privately and for non-commercial purposes". The text does not define or clarify what are to be considered private and non-commercial acts, but UPOV's 2009 Explanatory Notes state that

> the propagation of a variety by a farmer exclusively for the production of a food crop to be consumed entirely by that farmer and the dependents of the farmer living on that holding, may be considered to fall within the meaning of acts done privately and for non-commercial purposes. Therefore, activities, including for example "subsistence farming", where these constitute acts done privately and for non-commercial purposes, may be considered to be excluded from the scope of the breeder's right, and farmers who conduct these kinds of activities freely benefit from the availability of protected new varieties. (UPOV, 2009)

It is apparent in this text that the UPOV Council's interpretation of "acts done privately and for non-commercial purposes" is very narrow. The Council's interpretation leaves out the issue of exchange, which is a key component for facilitating access to seeds and planting material in the African context, and thus a key component in implementation of farmers' rights. The Council's guidance only refers to propagation of a variety by a farmer for the production of a food crop "to be consumed entirely by that farmer and the dependents of the farmer living on that holding", thus clearly, though not explicitly, excluding exchange between neighbours (De Jonge, 2014). Further, there is no reference, explicit or otherwise, to acts such as selling or trading of seed surplus in the local grain market. As such, it cannot be construed that these acts fall within the definition of the private and non-commercial use exemption as presented in UPOV's Explanatory Notes.

Recently, however, UPOV has gone further in explaining the meaning of "acts done privately and for non-commercial purposes" in the frequently asked questions (FAQ) section of its website, as follows:

> UPOV Contracting Parties have the flexibility to consider, where the legitimate interests of the breeders are not significantly affected, in the occasional case of propagating material of protected varieties, allowing subsistence farmers to exchange this against other vital goods within the local community. (UPOV, n.d.)

According to De Jonge, Louwaars and Kinderlerer (2015), this explanation on the UPOV website is a small but significant step, as it shows that the UPOV Council is now apparently willing to accept a broader interpretation of this exemption than was the case before.

The most important thing to note, however, is that both the UPOV Council's Explanatory Notes of 2009 and the FAQ text on the UPOV website only provide guidance to countries seeking to interpret Article 15(1)(i); they have no legal force. And since the UPOV Convention itself does not define "private and non-commercial use", countries are at liberty, in national or regional implementation rules and regulations complementary to national PVP laws, to interpret and define Article 15(1)(i) more broadly than the UPOV guidance suggests. De Jonge et al. (2015) argue, for example, that since seed exchange among smallholder farmers is an indispensable aspect of subsistence farming, this practice then clearly falls within the scope of private and non-commercial use. Likewise, the sale of surplus harvest by smallholder farmers in local markets provides these farmers with a badly needed extra income for purchase of basic human necessities such as food, medical care and schooling (Berne Declaration, 2014) and can also fall within this exception. Indeed, members of the European Seed Association (2011) have taken the view that such practices

do not affect their commercial interests (ESA, 2011). With breeding companies taking this broader view, there is no reason for African countries not to adopt the same approach in their national and regional PVP laws and Protocols in order to bridge access to, and protection of, plant varieties within their territories.

CONCLUSIONS

Currently, African countries, through national instruments and regional platforms, have adopted, or are in the process of adopting, systems for PVP based on the UPOV 1991 Convention. These developments have not been without criticisms, because of concerns that, inter alia, the processes under way are not adequately taking into account farmers' rights, in particular the rights of farmers to save, exchange and sell farm-saved seed.

In this article, we have explored two UPOV 1991 provisions for their potential to provide a bridge between access to new plant varieties by African smallholder farmers and protection of breeder's rights in these new varieties. From the two exemptions to breeders' rights discussed in this article, we may conclude that the private and non-commercial use exemption can best be exploited by African countries to establish plant breeders' IP rights while still safeguarding the farmers' traditional practices of saving, exchanging and selling farm-saved seed.

By bridging access to and protection of plant varieties, African countries would overcome at least some of the conflicts and tensions that have so far beset the quest to implement PVP on the continent.

ACKNOWLEDGEMENTS

This work is part of the research programme Responsible Innovation, which is financed by the Netherlands Organisation for Scientific Research (NWO).

REFERENCES

Act of 1961 of the International Convention on Protection of New Varieties of Plants, International Union for the Protection of New Plant Varieties (UPOV, 1961).

Act of 1978 of the International Convention on Protection of New Varieties of Plants (UPOV, 1978).

Act of 1991 of the International Convention on Protection of New Varieties of Plants (UPOV, 1991).

African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, Organisation of African Unity (OAU) (2000).

Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), World Trade Organisation (WTO) (1994).

Alliance for Food Sovereignty in Africa (AFSA). (2014). *AFSA makes small gains for farmers' rights in draft SADC PVP Protocol.* A briefing paper. Retrieved from http://acbio.org.za/afsa-makes-small-gains-for-farmers-rights-in-draft-sadc-pvp-protocol/

Andersen, R., & Winge, T. (2011). *The 2010 Global consultations on farmers' rights: Results from an e-mail based survey*. FNI Report 2/2011. Lysaker, Norway: Fridtjof Nansen Institute (FNI). Retrieved from http://www.fni.no/doc&pdf/FNI-R0211.pdf

Arusha Protocol for the Protection of New Varieties of Plants, African Regional Intellectual Property Organisation (ARIPO) (2015).

Berne Declaration (BD). (2014). *Owning seeds, accessing food: A human rights impact assessment of UPOV 1991 based on case studies in Kenya, Peru and the Philippines.* Retrieved from https://www.bernedeclaration.ch/fileadmin/files/documents/Saatgut/2014_07_10_Owning_Seed_-_Accessing_Food_report_def.pdf

Bos, H. (1920). Patentering van nieuwighen op tuinbouwbebied [Patenting of novelties in horticulture], *Floralia*, *20*, 14-18.

Convention on Biological Diversity (CBD) (1992).

Convention on Biological Diversity (CBD). (n.d.). History of the convention. Retrieved from https://www.cbd.int/history/

Council Regulation (EC) No 2100/94 of 27 July 1994 on Community Plant Variety Rights, Council of the European Union (1994).

Declaration of the United Nations Conference on the Human Environment (1972).

De Jonge, B. (2014). Plant variety protection in Sub-Saharan Africa: Balancing commercial and smallholder farmers' interests. *Journal of Politics and Law*, *7*(3). doi:10.5539/jpl.v7n3p100.

De Jonge, B., Louwaars, N.P., & Kinderlerer, J. (2015). A solution to the controversy on plant variety protection in Africa. *Nature Biotechnology*, *33*(5).

European Seed Association (ESA). (2011). *ESA position on plant IP protection and biodiversity*. Retrieved from https://www.euroseeds.eu/esa110049-esa-position-plant-ip-protection-and-biodiversity

Ghijsen, H. (2007). Plant breeder's rights: A fair and balanced intellectual property right for plant varieties. *Tailoring Biotechnologies, 3*(2), 79-98.

Heitz, A. (1987). The history of plant variety protection. In UPOV (Ed.), *The first 25 years of the International Convention for the Protection of New Varieties of Plants* (pp. 53-96). Geneva: UPOV.

International Seed Federation (ISF). (2012a). *Export of seed for sowing by country – calendar year 2011.*

ISF. (2012b). *Estimated value of the domestic seed market in selected countries for the year 2011* (updated May 2012). Retrieved from www.worldseed.org/isf/seed_statistics.html

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (Plant Treaty) (2001).

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). (n.d.). Submissions of Views and Experiences on the Implementation of Farmers' Rights Submitted by Contracting Parties and Relevant Organizations. Retrieved from http://www.planttreaty.org/content/farmers-rights-submissions

International Treaty on Plant Genetic Resources for Food and Agriculture Governing Body (ITPGRFA Governing Body). (2007). Resolution 2/2007: Farmers' Rights. Retrieved from http://www.planttreaty.org/sites/default/files/R2_2007_en.pdf

ITPGRFA Governing Body. (2011). Global consultations on farmers' rights in 2010. Retrieved from http://www.planttreaty.org/sites/default/files/gb4c01e.pdf

Lipper, L., Anderson, C.L., & Dalton, T.J. (Eds). (2010). S*eed trade in rural markets: Implications for crop diversity and agricultural development*. Rome and London: Food and Agriculture Organisation (FAO) and Earthscan.

Llewelyn, M., & Adcock, M.D. (2006). *European plant intellectual property*. Oxford: Hart Publishing.

Louwaars, N.P., & De Boef, W.S. (2012). Integrated seed sector development in Africa: A conceptual framework for creating coherence between practices, programs, and policies. *Journal of Crop Improvement*, *26*, 39-59. Retrieved from http://dx.doi.org/10.1080/15427528.2011.611277

Louwaars, N.P., De Jonge, B., & Munyi, P. (2013). Intellectual property rights in the plant sciences and development goals in agriculture: An historical perspective. In S. Arapostathis & G. Dutfield (Eds.), *Knowledge management and intellectual property. Concepts, actors and practices from the past to the present* (pp. 252-272). Queen Mary Studies in Intellectual Property Series. Cheltenham: Edward Elgar Publishing.

Lowder, S.K., Skoet, J., & Singh, S. (2014). *What do we really know about the number and distribution of farms and family farms in the world?* Background paper for The State of Food and Agriculture 2014. ESA Working Paper No. 14-02. Rome: Food and Agriculture Organisation (FAO).

Mahop T.M., De Jonge, B., & Munyi, P. (2013). Plant variety protection regimes and seed regulations in Sub-Saharan Africa: Current trends and implications. *Bio-Science Law Review, 13*(3).

Maredia, K.M., Erbisch, F.H., Ives, C.L., & Fischer, A.J. (1999). Technology transfer and licensing of agricultural biotechnologies in the international arena. Review article. *AgBiotechNet, 1.*

Moore, G., & Tymowski, W. (2005). E*xplanatory guide to the International Treaty on Plant Genetic Resources for Food and Agriculture.* IUCN Environmental Policy and Law Paper No. 57. Retrieved from https://cmsdata.iucn.org/downloads/eplp_057__explanatory_guide_to_the_international_treaty_on_plant_genetic_resources_fo.pdf

Munyi, P. (2015). Plant variety protection regime in relation to relevant international obligations: Implications for smallholder farmers in Kenya. *The Journal of World Intellectual Property, 18*, 65-85. doi: 10.1111/jwip.12031.

Munyi, P., De Jonge, B., & Visser, B. (forthcoming). Opportunities and threats to harmonization of national plant breeder's rights legislations through regional agreements: ARIPO and SADC. *African Journal of International and Comparative Law.*

Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (2010).

Sackey, E.K.A., & Kasilo, O.M.J. (2010). Intellectual property approaches to the protection of traditional knowledge in the African region. *The African Health Monitor*, Special Issue 13, August.

Southern African Development Community (SADC). (2014). Draft Protocol for the Protection of New Varieties of Plants (Plant Breeders' Rights) in the Southern African Development Community Region (SADC Draft Protocol).

Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore within the Framework of the African Regional Intellectual Property Organisation (2010).

UPOV: International Union for the Protection of New Plant Varieties. (1992). *Records of the diplomatic conference for the revision of the International Convention for the Protection of New Varieties of Plants.* Geneva.

UPOV. (2005). *Report on the impact of plant variety protection*. Geneva.

UPOV. (2009). *Explanatory notes on exception to the breeder's right under the 1991 Act of the UPOV Convention*. UPOV Document UPOV/EXN/EXC/1 of 22 October. Geneva. Retrieved from http://www.upov.int/export/sites/upov/en/publications/pdf/upov_exn_exc_1.pdf.

UPOV. (2014). *Plant variety statistics for the period 2009-2013*. UPOV Document C/48/7 of 8 October. Geneva.

UPOV. (n.d.). Frequently asked questions. Retrieved from http://www.upov.int/about/en/faq.html#Q30

Wiggins, S. (2009). *Can the smallholder farmer model deliver poverty reduction and food safety for a rapidly growing population in Africa?* Paper for the FAO Expert Meeting on How to Feed the World in 2050, 24-26 June, Rome.

World Bank. (2008). *World development report: Agriculture for development*. Washington, DC: World Bank.

World Trade Organisation (WTO). (2013). *Extension of the transition period under Article 66.1 for least developed country members*. Decision of the Council for TRIPS of 11 June. Geneva.

LICENSING OPEN DATA IN DEVELOPING COUNTRIES: THE CASE OF THE KENYAN AND CITY OF CAPE TOWN OPEN DATA INITIATIVES

Michelle Willmers
Project Manager and Researcher, Open Data Africa Initiative, Intellectual Property Unit, Faculty of Law, University of Cape Town

François van Schalkwyk
PhD candidate, Stellenbosch University; Researcher, Centre for Higher Education Transformation, Cape Town; and Research Manager: Africa, World Wide Web Foundation

Tobias Schonwetter
Director, Intellectual Property Unit, Faculty of Law, University of Cape Town

ABSTRACT
Open data practice is gaining momentum in the public sector and civil society as an important mechanism for sharing information, aiding transparency, and promoting socio-economic development. Within this context, licensing is a key legal mechanism that enables re-use without sanction. However, there is evidence of a "licensing deficit" and this raises questions regarding best practice and sustainability in emerging African open data initiatives, particularly in the context of intermediaries being encouraged to exploit shared data for economic and social benefit. This article asks two main questions: (1) What is the current state of open licensing in two African open data initiatives; and (2) to what degree is it appropriate to focus on licensing as a key indicator of openness? Utilising a case study approach, the research explored licensing dynamics in the Kenya Open Data and the City of Cape Town Open Data initiatives, examining the contexts in which these initiatives were established and their resulting licensing frameworks. The cases reveal evidence of strategic engagement with content licensing, driven largely by the need for legal protection, adherence to international best practice and attraction of the user base required in order to ensure sustainability. The application of licensing systems in both contexts does, however, suggest an emerging system in which data providers are "learning by doing" and evolving their licensing practice as portals and their associated policy frameworks mature. The paper discusses the value of open data licensing as an indicator of organisational change and concomitant importance of taking into consideration the institutional dynamics when evaluating the organisational licensing frameworks of city, national and other governments.

KEYWORDS
open data, Kenya, Cape Town, licensing, open licences, Creative Commons

INTRODUCTION: THE ROLE OF LICENSING IN OPEN DATA PROVISION

This article is concerned with the current state of open licensing in two African open data initiatives and the extent to which licensing approach should be considered as an indicator of openness. Open data practice is gaining international momentum in the public sector and civil society as an important mechanism for sharing information, aiding transparency, and promoting socio-economic development. Vast amounts of data are being released for public consumption under the expectation that this activity can contribute to a better-informed citizenry, provide economic opportunities for intermediary partners, and improve administration. Within this context, open data licensing is a key legal mechanism for facilitating the lawful re-use of data (Davies et al., 2013; Dulong de Rosnay & Janssen, 2014). This article attempts to understand some of the contextual factors influencing the application of data licensing systems in an African open data context.

In the context of data sharing it is useful to distinguish between the notions of "gratis" and "libre". Gratis content is typically free for the user to download from the Internet without any cost, but with full copyright retained. Libre, on the other hand, refers to content which is, amongst other things, openly licensed and thus available for re-use, with certain provisos stipulated. While gratis data can be valuable in terms of simple information sharing, data shared in the libre context hold greater affordance for adaptation and remixing by intermediaries. Previous research (Davies, 2014) has demonstrated that such intermediaries are a crucial part of the open data ecosystem (Chattapadhyay, 2014; Roberts, 2014; Sein & Furoholt, 2012; Van Schalkwyk et al., 2013) and their engagement plays an important role in the sustainability of open data initiatives. Williams, Marcello and Klopp (2014) argue that how open access is provided to data is just as important as making it freely available (i.e., without cost). They point out that access is defined by context, connectivity and capabilities; and that these factors all come to bear on the effective utilisation of open data.

The World Bank (n.d.) uses the term "open data" with very specific meaning; data or content is open if anyone is free to use, re-use or redistribute it, subject at most to measures that preserve provenance and openness. It identifies two dimensions of openness: (1) The data must be legally open, i.e., placed in the public domain or licensed under liberal terms of use with minimal restrictions; and (2) the data must be technically open, i.e., published in electronic formats that are machine readable and preferably non-proprietary.

Open Definition (n.d.) lists "Licensing" as one of the three pillars that define an authentically open or libre resource – along with access (available via the Internet without charge) and open format (provided in a convenient and modifiable form such that there are no unnecessary technological obstacles to the performance of the licensed rights). This definition goes on to state that a licence is only authentically open if its terms satisfy the following conditions: use, redistribution, modification, separation, compilation, non-discrimination, propagation, application to any purpose, and free from charge.

In terms of international copyright law, copyright exists automatically in original works – meaning that no additional measures (other than physical creation) need to be taken for copyright protection to apply. Open data licences are used within this framework for copyright protected data to denote selected elements of traditional "all rights reserved" copyright protection which the author or copyright holder wishes to waive (such as the sole right to adapt or reproduce elements of that content). Open licences are applied to protect the creator and, at the same time, facilitate ease of re-use, thereby eliminating the need for permissions and additional contracting around application of content. It is a useful means of signposting whether and how data may be used by others, and whether there are any particular provisos or conditions associated with that use.

The absence of an open licence implies that all rights are reserved to the author or copyright holder, and serves as a potential barrier for re-use. It is therefore not only important that data are made open, but also that the potential users of such data are clear about being able to re-use data without fear of legal sanction (Janssen et al., 2012). In order for users to operate autonomously in this manner, licensing provisions should be expressed clearly and in alignment with other organisational terms of use or policies governing content distribution.

Open data licensing is expressed either through standard or bespoke licences. Standard licences are in some ways preferable in that they are re-usable, immediately recognisable amongst user communities without the need for complex legal interpretation, and (ideally) machine interoperable. The most common examples of standard licences include Creative Commons (CC),[1] Open Data Commons[2] and the Open Database License.[3] Bespoke licences are typically developed by governments and international organisations that engage in widespread open data sharing, and have a need for more detailed, specific terms of use. The benefits of these licences are that they enable an organisation to make explicit its particular concerns or provisos around the access and re-use of its data. The licence can also provide more detailed guidelines on how the data are to be applied and attributed. One example of a bespoke licence is the UK Open Government Licence.[4]

Terms of use can also contain elements of bespoke licensing. Typically associated with an entire website, platform or repository (as opposed to standard licensing, which is typically associated with an individual resource or digital object), terms of use can also complement standard licences. Some data providers take the approach of not licensing individual data sets, but instead articulating terms of use[5] for all content associated with a platform, portal or website. This is acceptable legal practice, but best practice in terms of open content sharing recommends that the licensing terms are embedded both in the actual data set (where possible) and in the descriptive metadata accompanying it.

There are indications that an increasing number of individuals and organisations worldwide are utilising open licensing when sharing content on the Internet. But while this practice is growing, there are still significant barriers to mainstream implementation. Creative Commons reported[6] in 2014 that there were 882 million CC-licensed works published on the Internet, with the most popular licensing provision (33%) being CC BY-SA (the CC licence requiring attribution and sharing of adaptations under similar licence conditions). In terms of geographical spread in application of CC licensing, the same Creative Commons report pointed out that only 1% of the CC-licensed content was associated with the African continent. Most of the content had come from North America (37%) and Europe (34%); with growing representation from the Asia-Pacific sector (16%), Latin America (10%), and the Arab World (2%). These figures are indicative of a deeper challenge that exists in Africa and other developing-country regions arising from low familiarity with the digital commons and a deficit in the skills, capacity and confidence required to engage strategically with open content licensing at various organisational levels (see, for example, Rizk, 2014).

A survey of development-related data sets in South Africa, conducted by Powell et al. (2012), found that while many NGOs, universities, research projects and government departments published data sets on their websites, few had explicit licensing statements. This aligns with the findings of the Open Data in Developing Countries (ODDC) initiative (Davies, 2014) with regard to the application of open licensing in developing-country contexts. ODDC found that in the spread of the open data initiatives surveyed:

> Very few datasets are clearly openly licensed, and there is low understanding of what open licenses entail. There are mixed opinions on the importance of a focus on licensing in different contexts. (Davies, 2014, p. 17)

The licensing deficit raises questions regarding best practice and sustainability in emerging African open data initiatives, particularly in the context of intermediaries being encouraged to exploit the shared data for economic benefit. In addition, the licensing deficit may be exposing the difficulties organisations bound by institutional dynamics

1 http://creativecommons.org/
2 http://www.opendatacommons.org/
3 http://opendatacommons.org/licenses/odbl/
4 http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/
5 http://web1.capetown.gov.za/web1/opendataportal/Images/OpenDataLicence2.pdf
6 https://stateof.creativecommons.org/report/

may face when attempting to come to terms with content licensing, and this may point to an often superficial and unsympathetic reading of open data licensing in governments across the globe.

This article therefore attempts to answer two main questions:

(i) What is the current state of open licensing in two African open data initiatives?
(ii) To what degree is it appropriate to focus on licensing as a key indicator of openness in the African open data context?

The next section of this article outlines our research methodology, followed by sections reporting and analysing findings from the two case studies of open data initiatives. We then provide discussion and conclusions.

METHODOLOGY

The study identified the Kenya Open Data Initiative (KODI) and the City of Cape Town Open Data (CCTOD) initiatives as its two principle sites of investigation. The sites' selection was based on the fact that they comprise two of the most prolific government open data initiatives in Africa. In addition, both aggregate data from a wide range of departments and agencies, and have demonstrated strategic engagement with open content licensing. At a national level, both South Africa and Kenya score consistently well in assessments by the Open Data Barometer[1] (a critical index that focuses on the context, availability and emerging impacts of open government data on the web), and by the Global Open Data Index[2] (which assesses the state of government data around the world). The prolific nature of these two countries in the open data landscape provided further incentive for site selection, as it provided confidence that we would find a level of activity sufficient to make the study viable.

Despite the fact that KODI is national-level and CCTOD is city-level, the two initiatives can be considered similar sites in technical and organisational respects and thus can serve as valuable lenses for understanding the dynamics at play in African public agencies concerned with open data provision.

Data on these two open data initiatives, and on their associated licensing dynamics, were collected via a two-phase data collection process, comprised of a general desk review followed by interviews. The desk review focused principally on obtaining a sense of the licensing practices and policy frameworks in the two cases. Where there were gaps in information, or where greater clarity was required to substantiate claims, interviews were undertaken with key informants working within each of the initiatives. Interviews were conducted either in person, via email, or telephonically, depending on geographic location and the preference of each interviewee.

FINDINGS

KENYA OPEN DATA INITIATIVE (KODI)

The KODI platform was launched in July 2011 with the intention of making Kenyan government data openly available through a single online portal (Kwamboka, 2013). The platform's launch came in the wake of a new national Constitution, adopted in 2010, which mandated a new era of public participation in government and altered the way in which Kenya's counties communicated with central government (Rose & Amolo, 2013). Under the new Kenyan Constitution, the right to information is enshrined in the Constitution's Bill of Rights. Article 35 of the Bill of Rights states that an individual has a right of access to information held by the State; and to information held by another person required for the exercise or protection of any right or fundamental freedom. It further imposes a duty on the State to publish and publicise any important information affecting the nation (Republic of Kenya, 2010).

Kenya, with East Africa's largest economy, is recognised as having a thriving information and communication technology (ICT) sector (Williams et al., 2014). The development of the KODI platform in 2010–11 took place in a context in which the ICT sector was expanding rapidly, and a number of factors collided to create an enabling environment. Jay Bhalla, Executive Director of the Open Institute and member of the government-appointed Task Force that led to the development of the KODI platform, attributes the birth of the KODI platform to a number of drivers (J. Bhalla, pers. comm., 2015), namely: (1) the new, more open policy environment enabled by the launch of the new Kenyan Constitution in 2010; (2) a strategic relationship between Kenya and the World Bank, which had embarked upon aggressive promotion of open data activity around this time; (3) a booming ICT sector enabled by the arrival of international undersea fibre optic cables that boosted Kenya's available bandwidth; (4) an explosion in the mobile telephony sub-sector; (5) significant relaxation of controls within legislation on investment in the ICT sector; (6) the emergence of ICT hubs and networks in need of data; and, most significantly, (7) the championing of the movement by the then-Permanent Secretary of the Kenya ICT Authority, Dr Bitange Ndemo.

Ndemo is largely acknowledged as being the father of the open data movement in Kenya, and he played a primary role in realisation of the KODI platform. In the absence of legal and policy frameworks for open data, the push to establish KODI was largely driven by Ndemo, who played the role of open data champion in government and lobbied intensely for support from the executive (Kenei, 2014). Bhalla of the Open Institute says that the principle arguments employed in the lobbying for the KODI platform were largely focused on job creation and a need to service the burgeoning ICT environment (with its associated intermediaries who wanted access to information in order to build applications for public consumption). The development and launch of the KODI platform can also

1 http://barometer.opendataresearch.org/
2 http://index.okfn.org/

be understood against a backdrop of significant activity in the area of e-government and in emerging innovation sectors that were driving economic activity. This momentum was supported and driven by Ndemo, who consistently employed arguments around economic benefit and job creation when confronted by government critics who were nervous about the risks that open data activity might bring (J. Bhalla, pers. comm., 2015).

The launch of the KODI platform made Kenya the first country in sub-Saharan Africa to have an open data portal, and the second on the continent after Morocco.[3] The ambition of the portal was to make core government developmental, demographic, statistical and expenditure data available in a useful digital format for researchers, policymakers, ICT developers and the general public (Mutuku & Mahihu, 2014), thus creating an "enabling infrastructure that could accelerate human and economic development throughout communities in Kenya" (Hopkins, 2012).

The KODI platform aggregates and shares data sets from Kenyan government ministries and agencies. The 2009 census data, as well as national and regional expenditure data and information on key public services such as education, health and agriculture, were some of the first data sets released (Mutuku & Mahihu, 2014). Originally much of this data, such as the census data, did not exist digitally (J. Bhalla, pers. comm., 2015), and so needed to be digitised in order to be curated and shared. The move towards more sophisticated data practice on the part of government ministries and agencies therefore coincided with the activity around the KODI platform.

KODI data are published online through the Socrata[4] platform, and users can view data sets at national, county and constituency levels in the categories of Education, Energy, Health, Population, Poverty, and Water and Sanitation. Data can be visualised using the online platform and also downloaded in a wide range of formats, including CSV, CSV for Excel, JSON, PDF, RDF, RSS, XLS and XML. At the time of writing, in June 2015, there were over 500 data sets available on the KODI portal. Data sets had been downloaded over 541,000 times and embedded into third-party websites and portals and viewed over 33,875 times. There had been 650 requests from the public and intermediaries for new data sets (S. Mawiyoo, pers. comm., 2015).

An online survey of reaction to the KODI platform and its open data sharing practice conducted as part of this study in early 2015 did, however, demonstrate significant negative response. Mutuku and Mahihu (2014) highlight the fact that the low quality of the available data hinders usage and limits value, but at the same time point out that intermediary technology has the potential to enhance access and usability of data. They also point out that supply of open data is still a challenge in Kenya because most government agencies are yet to fully embrace the constitutional directive around making data available, resulting in a large proportion of the available data sets being out of date.

The supply challenge is exacerbated by (1) unclear distinction between what can be safely shared and what is classified; (2) lack of technical capacity to produce/curate open data; and (3) lack of understanding of the exact mandate, as enshrined in law, for institutions to release data. For these reasons, "legal frameworks, including policy documentation with implementation plans and an access to information law, are necessary" (Mutuku & Mahihu, 2014, p. 31). This perspective is echoed by Brown (2013), who states that "Kenya's open data portal is floundering" because government agencies have been reluctant to release data (see also Mutuku & Mahihu, 2014; Wokabi, 2012), and because implementation of the multiple requirements of the new Constitution (which created a new devolved system of government) has hamstrung government officials who are trying to adjust to new roles and responsibilities, undermining officials' ability to incorporate open data into their workflows.

While the new Constitution recognises an individual's right to information, it has been argued that there is still a great need for a freedom of information (FOI) law to codify and implement this constitutional right. The absence of an FOI law has been cited as a significant inhibiting factor in the advancement of Kenya's e-government strategy as well as the sustained growth of the KODI platform (Brown, 2013; Kenei, 2014; Mutuku & Mahihu, 2014). At the time of writing, an Access to Information Bill along with a Data Protection Bill had been drafted and was awaiting debate in Parliament (S. Mawiyoo, pers. comm., 2015). Recognising the policy gap around the legal challenges of data publication, KODI also drafted an Open Data Policy in 2014, which, at the time of writing, was being evaluated by the ICT Authority. It is envisioned that this emergent policy and legislative framework will guide and set the standards for future release of public data.

In the current absence of a KODI-specific policy governing the licensing of the data shared via the portal, the legal framework is essentially being dictated by the ICT Authority's Terms of Use and Ndemo's directive, which was formulated in line with World Bank consultation and international best practice (both of which advocate for open licensing and third-party appropriation without restriction).

The KODI platform Terms of Use state that the Kenya ICT Board and the government agencies whose information is provided on the portal "impose no restrictions to the commercial and non-commercial reproduction, re-publication and re-distribution of any information published on the portal" (KODI, n.d.). Data sets have to date been published on the platform under either:

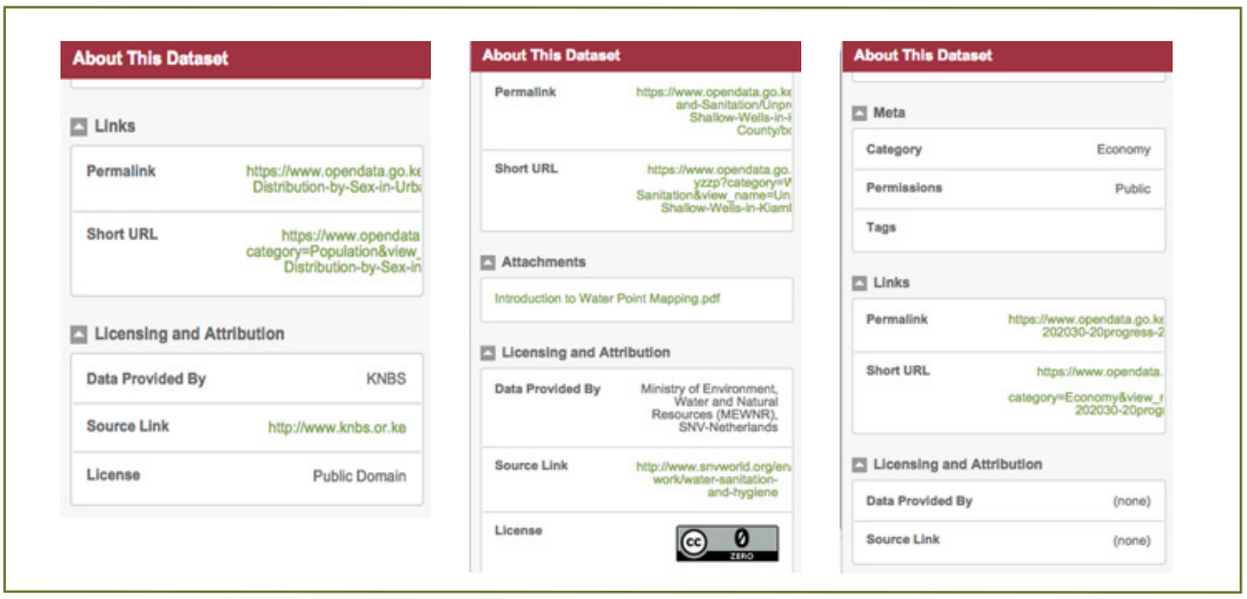
(1) the CC0 1.0 Universal Public Domain Dedication (CC0);
(2) a "Public Domain" statement; or
(3) in some cases no licensing provisions are indicated in the "Licensing and Attribution" metadata field (this typically takes place in instances where data suppliers have merely supplied pdfs of data sets).

3 https://opendata.go.ke/page/about

4 http://www.socrata.com/

Figure 1 shows metadata extracts from the "About" links on three KODI data sets, demonstrating the variations outlined above. The first screenshot is from a data set[5] provided by the Kenya National Bureau of Statistics (KNBS) and is indicated as being in the "Public Domain". The second screenshot is from a data set[6] provided by the Ministry of Environment, Water and Natural Resources (MEWNR), SNV-Netherlands, and is identified as having a CC0 licence. The third is from a data set[7] provided by an unidentified source and does not carry any licensing statement.

FIGURE I:METADATA EXTRACTS FROM DATA SETS SHARED ON THE KODI PLATFORM



Sifa Mawiyoo, KODI Data and GIS Specialist, indicated that the "Public Domain" label was a feature of the administrative interface and had arisen due to the fact that the term was easier to grasp for metadata inputters who did not have knowledge of the CC licensing regime as well as being one of the first options in the Socrata platform's drop-down list of licensing options when ascribing metadata (pers. comm., 2015). Cases where there was no licensing statement had resulted from error or oversight in metadata input rather than a divergent strategic choice. Mawiyoo indicated that the KODI team was undertaking work to standardise metadata provisions in order to eliminate input errors of this nature, and that the approach to licensing management was evolving as the team became more familiar with licensing regimes.

In terms of KODI general practice, metadata were sometimes supplied by the relevant government ministry along with the data sets. If no metadata were provided, the KODI team attempted to source this information from a local contact at the source ministry, or otherwise undertook background research to populate metadata if the source ministry could not provide the relevant detail. In terms of overall process, the KODI team was acquiring data sets from the ministries and agencies, cleaning and formatting the data, ascribing metadata, and then publishing the data sets on the portal (S. Mawiyoo, pers. comm., 2015).

It is important to note that the "Public Domain" label was being employed as an administrative solution in the metadata context (largely based on its prominence in the standard Socrata platform interface) rather than being used to indicate the choice of the CC Public Domain Mark 1.0 – another tool provided by Creative Commons. CC0 and the CC Public Domain Mark are both CC public domain tools. CC0 licensing is applied in cases where the licensor is the copyright holder and wishes to waive all rights associated with a particular work worldwide (to the extent possible under law); while the Public Domain Mark is utilised in cases where a user has identified a work that is free of known copyright restrictions, and is merely "tagging" or identifying the copyright status of the work for other users.

ANALYSIS OF THE KODI LICENSING FRAMEWORK

In the absence of a national legal framework for open data provision, the KODI platform plays an important role in providing a platform on which user rights are entrenched in an open legal framework. The same data sets are, however, sometimes disseminated under different legal conditions via different delivery channels. An agency such as the Kenya National Bureau of Statistics (KNBS), for instance, shares data via its own website on a full copyright basis with all rights reserved. According to the KNBS website Terms of Use:

> You may download, print and store selected portions of the content of the site provided that you (l) only use these copies for your own personal, non-commercial use, (ll) do not copy or post the content on any network computer or broadcast the content in the media, and (lll) do not modify or alter the content in any way. (KNBS, n.d.)

5 https://www.opendata.go.ke/Population/Population-Distribution-by-Sex-in-Urban-Centres-an/yc6j-ekrh (retrieved 11 June 2015)

6 https://www.opendata.go.ke/Water-and-Sanitation/Unprotected-Shallow-Wells-in-Kiambu-County/bqhi-yzzp (retrieved 11 June 2015)

7 https://www.opendata.go.ke/Economy/Vision-202030-20progress-20report/p3t9-shd7 (retrieved 11 June 2015)

KNBS does, however, simultaneously share selected data sets via the KODI platform, and KNBS data on that platform were at the time of writing indicated as being in the public domain. This disjuncture among licensing practices has come about as a result of a gap between policy and approach at the Kenya ICT Authority and at individual ministry or agency level, as well as a gap in understanding of open data licensing regimes. The ICT Authority and KODI position themselves in line with the international open data movement, meaning that they are forced to engage with open licensing systems, interpret a complicated licensing framework and ascribe appropriate metadata on behalf of data providers in order to facilitate third-party engagement. The state entities that provide the data have to date not faced the same strategic imperative.

While application of the "Public Domain" label in the KODI context arose from an inputting error when ascribing metadata, it points to a deeper challenge in terms of the complexities of not only getting to grips with licensing systems, but also developing an understanding of the technical principles of what it means for content to be in the public domain. The commonplace assumption might be that this refers to the fact that content is freely available for download on the Internet. There is, however, considerable complexity associated with the legal definition of this concept, particularly in the context of data publication.

In terms of international convention, a work is in the public domain either: (a) when the copyright holder has waived all rights associated with the work; or (b) the work, under various conditions, does not enjoy protection under the provisions of the Copyright Act in a certain jurisdiction. As such, content that is in the public domain in one country may not be in the public domain in another. Examples of instances when work does not enjoy protection under a Copyright Act include cases when the defined copyright period has expired, or when work is not eligible for copyright protection in the first place (such as instances where the work is a mere expression of fact). Copyright laws vary by jurisdiction, in terms of duration of protection and what constitutes copyrightable subject matter (Creative Commons, n.d.). As such, one of the only ways to determine with certainty whether something is in the public domain is when the copyright holder dedicates the work under a CC0 licence. CC licences do not, however, affect the status of a work that is in the public domain under applicable law (such as when duration has expired or the work is not eligible), because these licenses only apply to works that are protected by copyright.

In order for KODI to ensure cohesion and correct legal application of licensing terms it is crucial that government data-provider agencies develop a deeper understanding of licensing systems in order that they can provide a clearer directive on the usage rights and provisions ascribed to their content. According to Bhalla (pers. comm., 2015), government ministries and agencies essentially allowed their data to be released openly (under CC0 and Public Domain statements) via the KODI platform because of the directive from Ndemo, while there was little understanding of content licensing amongst these ministries and agencies. This sentiment was echoed by KNBS Senior Manager of Data Processing Mutua Kakinyi (pers. comm., 2015), who indicated that there was little to no working knowledge of CC and the public domain legal framework within the national statistics agency.

Significant challenges therefore exist in bringing about cohesion in licensing frameworks for release of government data, both within individual platforms and initiatives as well as across agencies. This will require investment in the up-skilling of agencies to deal with copyright issues and a coordinated approach around data release and ownership principles. Bhalla (pers. comm., 2015) indicated that the initiative around the FOI Act was, among other things, aimed at addressing this deficit and creating technical capacity in government ministries to release data in an openly licensed format. In line with this new initiative, all government services down to county level are to implement systems to facilitate digital data gathering and curation. This activity will need to be matched by capacity development in licensing systems across multiple levels of the agencies involved if data sets are to be shared in an optimally open and legally appropriate manner.

CITY OF CAPE TOWN OPEN DATA (CCTOD) INITIATIVE

The CCTOD portal[8] was launched in January 2015, in line with the City's Open Data Draft Policy[9] of February 2014 (City of Cape Town, 2014). The launch of the portal established Cape Town as the first city in Africa to establish an open data presence, and positioned it amongst an international group of cities that have in recent years launched similar initiatives in line with e-government strategies.

The City's Open Data Draft Policy recognises four issues necessitating the establishment of an open data portal: (1) the role played by data in the economy and society is changing; (2) innovators and entrepreneurs are using data sets to design new kinds of products, to enhance competitiveness, to build social capital, and to engage in civic life; (3) the City's useful information is often hidden and data access policies and procedures within the City impede public access; and (4) the City's various websites are often not user-friendly, with the information they contain sometimes out of date and/or not in machine-readable format (City of Cape Town, 2014). The CCTOD initiative aims to address these issues and to create "an enabling environment to attract investment that generates economic growth and job creation" (City of Cape Town, 2014, p. 3).

Recent research by Bagui and Bytheway (2013) indicates that:

> the use of mobile, web and social media technologies is widely expected to be an important feature of improving public participation in government in the City of Cape Town, but … the necessary transformation that would enable it is far from complete. (Bagui & Bytheway, 2013)

8 https://web1.capetown.gov.za/web1/opendataportal/

9 "Draft" is contained in the title of the final published policy.

The CCTOD initiative is a step towards addressing the public participation goal as highlighted by Bagui and Bytheway (2013), and has significant synergies with a number of other strategic activities, such as the City's Smart City Strategy,[10] which aims for the City to advance its digital agenda and become more open in offering services to the public. In this sense, the CCTOD initiative forms part of the broader ambition to ramp up information management and e-government strategy at City level and to increase engagement with stakeholders from the broader community.

At the time of writing in June 2015, the CCTOD portal hosted 33 data sets, covering community services, natural resources and the environment, basic services and infrastructure, transportation, spatial planning, finance, health, safety and security, land administration, and political and administrative boundaries. The platform was custom-developed by the City's Information Services and Technology (IS & T) Department for the City's Development Information and Geographic Information Systems (DI & GIS) Department (the custodian of the portal), and typically makes data sets available as a combination of CSV, KMZ, XLSX and SHP files. All data sets are accompanied by metadata, which include data set name, document name, description, date added, time coverage, spatial coverage, subject, file size, format, usage considerations and update frequency. (Because the portal had only been in existence for five months at the time of writing, it was not possible to comment on usage and uptake factors, e.g., the degree to which departments are providing data, or the extent to which data are being downloaded and used.).

The City's open data team, principally located within the DI & GIS Department, has solicited data for the portal from various City departments through internal processes. In addition, users are able to request data sets via the portal through its "Suggest a data set" link. Data requests are reviewed by an Open Data Steering Committee comprised of City Council representatives and two external stakeholders from the local open data community. The Committee convenes on a quarterly basis to review requests for additional data sets. This regulatory mechanism has provoked some criticism from local open data advocates, as it is seen by some as an inhibiting, gatekeeping mechanism with the potential to slow down the release of data (Eyal, 2014). It does, however, play an important role in providing a sense of regulation and security for City departments sharing their data on the portal (X. Limberg, pers. comm., 2015).

The impetus for launching the CCTOD initiative came from parallel Western Cape Province and City of Cape Town activities initiated in 2013. It arose out of a process initiated by the City Mayor's Office after the City was awarded World Design Capital status in 2014, following the initiation of an Open Data Forum by the Western Cape MEC for Finance, Economic Development and Tourism (K. Smith, pers. comm., 2015). The provincial forum drew together a wide range of relevant stakeholders and interest groups and resulted in a proposal to develop an open data policy. This activity was then advanced further with the support of the Mayor's Office.

Following the recommendations of the provincial forum, the City's DI & GIS Department put together a discussion document around open data policies and practices and facilitated an extensive internal consultation in order to obtain organisational buy-in on the policy. DI & GIS was tasked with this function because of its central role in the City's information management, with the open data process seen as a means to bolster this area of activity within the City. The discussion document generated by DI & GIS served as the basis for the Open Data Draft Policy published in early 2014 (City of Cape Town, 2014).

According to Keith Smith, Head of DI & GIS, when the City's internal consultation process was launched, the idea of open data was fairly new to the City and was met with mixed responses (K. Smith, pers. comm., 2015). At senior management level in the City, there were individuals who were supportive, but there were concerns around potential impact on existing resources, possible risks (such as incorrect representation of data), and the priority level of the initiative (given the fact that there were a number of other competing imperatives). There was also some concern that some of the City departments that were selling data would lose out on revenue. Obtaining the necessary internal buy-in during the consultation process was aided by referencing international examples and by support from the Mayor's Office.

The legal conversation around copyright management and licensing formed part of the exploratory internal consultation process. Smith (pers. comm., 2015) stated that the overall approach to the open data project was largely one of learning by doing, and that copyright considerations were not included in the City's published Open Data Draft Policy because the idea was to have a policy that was as short and simple as possible. A decision was made to articulate legal provisions through a customised licence in a separate Terms of Use document (City of Cape Town, n.d.).

Neil Hoorn, the developer within DI & GIS tasked with the project management of the CCTOD portal, said that the licensing consultation process was informed by dual imperatives: (1) providing free access to the data and (2) protecting the City against any liability that might arise from inappropriate use of the data. In this sense, the licensing conversation aimed to address both internal (organisational) and external (user) considerations (N. Hoorn, pers. comm., 2015). The consultation process was also seen as an important mechanism for providing legal assurance to internal departments in terms of the anxieties associated with open data sharing (K. Smith, pers. comm., 2015).

The main actors in the articulation of the CCTOD licensing approach were the City's Legal Services department and DI & GIS. Consultation was undertaken with Creative Commons South Africa[11] in order to learn more about CC licensing, but CC licences were considered too generic as they were seen as not dealing with some of the specific issues raised by stakeholders during the discussion and review stage of the City's Open Data Draft Policy. Specifically, the open data team felt that the

10 http://web.capetown.gov.za/eDocuments/Smart_City_Public_Private_Partnership_Conference_228200310231_389.pdf

11 One of the authors of this article, Dr. Tobias Schonwetter, participated in these discussions in his capacity as Legal Lead for Creative Commons South Africa.

licensing needed to be more explicit with respect to illegal or inappropriate use of its data (N. Hoorn, pers. comm., 2015). This was in spite of the fact that CC licences do contain disclaimers and provisions limiting the liability of the licensor. It was eventually decided that the City should create a bespoke terms of use licensing statement that would make usage conditions as explicit as possible. Draft terms of use were considered by the Steering Committee and adopted with minor revision.

The CCTOD portal's adopted Terms of Use is a four-page document downloadable as a pdf via the "Terms of use" link on the portal home page (City of Cape Town, n.d.). It opens with a "Disclaimer" stating that the City "makes data available without any remuneration"; "makes no representations and warranties […] about the completeness, accuracy, reliability, suitability or availability of data on the website"; and will "not be liable for any errors, omissions, or inaccuracies in the data provided" (City of Cape Town, n.d., p. 1). The next section, on "Use of Data", outlines the usage provisions for the user, but does so from a regulatory perspective in that it emphasises what the user is not allowed to do. According to the Terms of Use, the user specifically undertakes (1) only to use the data for a lawful purpose; (2) not to use the data to commit a criminal offence; (3) not to use the data to infringe any lawful entitlement; (4) not to use the data to impersonate another misrepresent identity; and (5) not to alter, damage or delete any content or load any harmful programmes, computer code or files that may alter, damage, interrupt or limit access to data. The Terms of Use further state that "the User is required to explicitly state that the City does not warrant or guarantee the quality or accuracy of the data" (City of Cape Town, n.d., p. 2).

The Terms of Use document makes no explicit mention of commercial application of the data, but states that the "User may use the data contained on this site free of charge" (City of Cape Town, n.d., p. 2). From a legal perspective, this implies that commercial for-profit application is permissible. However, this might not be immediately apparent to a user who is not well versed in legal matters.

In addition, while the CCTOD portal's Terms of Use make it explicit that the conditions apply to visitors and users of the Open Data Portal section of the City's website, uncertainty about commercial application could be compounded by the copyright notice of the broader City website (of which the Open Data Portal is part). That City website copyright notice states that:

> Any redistribution or reproduction of part or all of the contents in any form is prohibited, other than the following:
> - you may print or download to a local hard disk extracts for your personal and non-commercial use only;
> - you may copy the content to individual third parties for their personal use, but only if you acknowledge our website as the source of the material […]. (City of Cape Town, 2008)

The appearance, in the licensing approach, of foregrounding organisational concerns over affordances for the user again arises in the "Use of Data'" provision in the Terms of Use, which states that the user undertakes not to "alter, damage or delete any content" (City of Cape Town, n.d., p. 2). This prioritisation of organisational concerns is also present in the "Intellectual Rights" sub-section of the Terms of Use, which explicitly prohibits copying and reproduction of data. The sub-section states that: (1) all intellectual property rights "shall remain vested at all times in the City"; and (2) "[t]he user shall not, under any circumstances whatsoever reproduce, copy or use the City's IP or permit the use of the City's IP by any third party without the City's prior written consent" (City of Cape Town, n.d., pp. 3-4).

ANALYSIS OF THE CCTOD LICENSING FRAMEWORK

The City's Open Data Draft Policy stresses the need to use open data to attract investment that generates economic growth and job creation (City of Cape Town, 2014), and the City informants interviewed for this research all stressed the importance of open data's economic innovation component, maintaining that the portal's data was available for any kind of use. Against this backdrop, the focus on a legally oriented statement that serves to address organisational anxieties around use and quality – as opposed to a user-oriented statement that is designed to facilitate re-use and economic exploitation – may be viewed as one of the principal shortcomings of the City's licensing approach. While the intention behind this provision was to counter any malicious hacking or illegal use of the site and its contents, it is possible that third-party intermediaries who wish to remix and adapt the content will view this provision as a major stumbling block for any such activity, or be required to address a query to the City in order to clarify their rights in this regard.

In this sense, the Terms of Use may serve as an effective means for protecting the City's interests, but cannot be said to be an optimal open licensing solution in that the fundamental provision of commercial exploitation is not made explicit and adaptation appears to be disallowed, despite the insistence of City representatives to the contrary. Uncertainty of this kind stands to be a potential barrier in terms of applying City data in an open data ecosystem where freedom and flexibility around appropriation of data are required. If intermediaries were to utilise the data they would most likely be required to engage the City in conversation around the scope of usage rights and permissions in order to obtain clarity, rather than just relying on a licence statement. While this may be acceptable and even desirable for the organisation during the initiative's fledgling stage, it raises questions around scalability and long-term viability. It is also counter-productive in terms of the fundamental purpose of open licensing systems, which is to circumvent permission seeking.

While the City's open data provision falls within the realm of gratis (i.e., available on the Internet for access without charge), it does not appear to be authentically libre content in line with international protocols around re-use. There also appears to be a tension or contradiction between the ambitions of the City's Open Data Draft Policy (which speaks to economic exploitation and innovation) and the Terms of Use (which regulate activity in terms of commercial application and adaptation). At present, the large number of anxieties around organisational risk associated with sharing open data has manifested in a relatively conservative licensing approach, when evaluated against international open data protocols. This is, however, not uncommon in the licensing strategies of city and other large-organisation data initiatives. In the case of the City of Cape Town, organisational realities and the groundbreaking nature of the initiative make the licensing of content a particularly challenging component in terms of balancing risk management and user rights.

DISCUSSION

The cases examined reveal evidence of strategic engagement with content licensing. In both the KODI and CCTOD initiatives, there are indications that licensing has been addressed as a key component of the strategies for establishment of the initiatives. These strategic engagements have been driven largely by a mixture of the need for legal protection, the desire to adhere to international best practice, and the need to attract the interactive user base that is required to build sustainability.

While there is strategic engagement with the licensing question in both initiatives, the actual implementation of licensing systems in the KODI and CCTOD contexts also suggests an element of "learning by doing" in both cases, through which licensing practices are evolving as the portals and associated policy frameworks mature. While this may not be ideal for the user community or in line with strict open data principles, it is understandable in the context of large intra-institutional initiatives that are innovating in an emerging terrain. The case studies have identified a patchwork of licensing systems being applied, with a mix of both standard and bespoke licences and some vacillation in how licensing is expressed. One of the main problems in this situation is licensing compatibility: differently licensed materials (particularly the combination of CC and bespoke licences) pose a challenge for users needing to integrate content with divergent licensing provisions. In addition, the lack of clarity is a significant challenge for optimal third-party engagement as well as internal buy-in and long-term sustainability.

The data generated by our interviews suggest that this patchwork scenario is largely due to the fact that data providers are still making sense of (1) the kinds of protection they require; (2) how licensing systems actually work; and (3) the complexities of weaving together different stakeholder demands, from both within and outside of the institution. In the case of the KODI initiative, this situation is compounded by the absence of a legislation and policy framework to govern open data provision and the terms under which data is released, resulting in a divergent licensing approach. In the case of the CCTOD initiative, the Terms of Use display a tension between legal protection of the data-providing organisation on the one hand and user application on the other. Given the foregrounding by the international open data movement of licensing as a key indicator of openness, this situation raises questions about how one balances ease of understanding for the user, adherence to formal protocols on best practice, and cohesion amongst intra-organisation entities.

In response to the first of our two research questions - as to what is the current state of open licensing in two African open data initiatives - the findings from this study suggest that the current state of licensing is nascent and practice is manifesting in a non-uniform fashion. There are also challenges in promoting the understanding and application of open licensing systems amongst members of data-provider organisations – particularly as it relates to the ambition of publishing authentically libre content that can be legally exploited for commercial application. Current engagement with licensing appears to be limited to specific senior divisions of the data-providing organisations, and an imperative exists for this knowledge to filter through to other levels of the organisations. This need to conscientise and develop capacity in various sectors of the data-provider environment around open licensing coincides with the need to gain the trust and buy-in of various sectors of the data-providing organisation in order to ensure a sustainable stream of data provision.

In response to our second research question – as to whether is it appropriate to focus on licensing as a key indicator of openness in the African context – the challenges that exist around organisational coherence, and the imperative to transition from gratis to libre practice so as to be in line with international open data protocols, suggest that licensing stands to be a crucial means of consolidating activity and aligning practice across government as an organisation. Licensing has the more obvious potential to be a valuable regulating, standardisation and security mechanism, but it can also serve as an indicator of the extent to which open data practice is being embedded across the organisation and the extent to which effective policy development has occurred.

The act of assigning an open licence to a data set indicates an understanding of what constitutes open data, in particular the fundamental principle of re-use; and it indicates that organisational actors have cognitively come to terms with and accepted the consequences of data being re-used without restriction.

From our case studies, there is evidence of two types of pressures that organisational actors are vulnerable to with regard to open data practice. First, there are exogenous pressures, i.e., pressures to adopt and internalise similar structures and procedures as those of other organisations within the institutional field. In the case of Kenya, a supranational agency (the World Bank) is seen to be exerting this pressure to conform, and in the case of the City of Cape Town there is an aspiration to emulate the open data initiatives of international, high-status cities.

Second, are endogenous pressures, i.e., pressures from within the organisation, applied to internal operational units. In Kenya, the then-Permanent Secretary of the ICT Authority applied pressure for government to conform to international "best practice", and in Cape Town, the Mayor's Office directed the City to match its northern counterparts. The pressure exerts directly and indirectly on those in the operational units of governments (the departments and agencies). But at the same time, actors in these units are institutionally bound and tend to favour compliance with institutional norms and values. Should a conflict exist between institutional norms and values and the pressures being exerted on actors from outside of the institution, then it is likely that the institutional actors will "decouple" in order to create a buffer to protect themselves from these conflicting pressures for change. In the case of Kenya, there is already evidence of departments not releasing data to KODI.

From a licensing perspective, Dulong de Rosnay and Janssen (2014) point out that the obstacles to unrestricted open data use caused by lack of harmonisation in data licensing are legal and technical, but they are also institutional and cognitive. Based on their findings, they recommend awareness and education at all levels (policy-, operational- and user-level).

Of interest in Kenya is the expectation that the new FOI Act, coupled with a boost in technical capacity, will be sufficient to result in a more streamlined and coherent data licensing landscape. Our findings from the two cases we studied seem to suggest that in addition to such measures, attention also needs to be directed towards how to align the norms and values of all actors across government as institution, in order to harmonise open data licensing as an important step to embedding open data practice as a taken-for-granted activity.

CONCLUSIONS

The case studies presented in this paper suggest that the African open data licensing landscape will continue to be expressed through a mix of standardised and bespoke licences, as well as other customised statements such as terms of use – in some cases applied at object level to the individual data set, and in other cases on a site-wide or platform basis. This situation reflects a significant set of under-appreciated institutional dynamics of the data publisher as well as a significant need for capacity development in understanding of open licensing systems amongst data-provider organisations.

It will be valuable to undertake further research on whether more cohesion manifests itself in the licensing environment as the African open data community grows and providers overcome the anxieties associated with the unknown.

ACKNOWLEDGEMENTS

The funding for this work has been provided through the World Wide Web Foundation "Exploring the Emerging Impacts of Open Data in Developing Countries" research project, supported by grant 107075 from Canada's International Development Research Centre (web.idrc.ca). Find out more at www.opendataresearch.org/emergingimpacts.

The authors wish to thank KODI Data and GIS Specialist Sifa Mawiyoo for his willingness to engage, time spent in document review, and contribution to sourcing data; as well as Jay Bhalla, Executive Director of the Open Institute, for providing valuable understanding of the KODI context. We also wish to acknowledge the significant contribution of senior City of Cape Town DI & GIS team members, Keith Smith and Neil Hoorn, for their crucial insight into the CCTOD initiative.

REFERENCES

Bagui, L., & Bytheway, A. (2014). Exploring e-participation in the City of Cape Town. *The Journal of Community Informatics*, *9*(4). Retrieved from http://ci-journal.net/index.php/ciej/article/view/982/1052

Brown, G. (2013). Why Kenya's open data portal is failing – and why it can still succeed. Retrieved from http://sunlightfoundation.com/blog/2013/09/23/why-kenyas-open-data-portal-is-failing-and-why-it-can-still-succeed/

Cabinet Office. (2012). *Open data white paper: Unleashing the potential*. Presented to UK Parliament by the Minister of State for the Cabinet Office and Paymaster General. Retrieved from https://www.gov.uk/government/publications/open-data-white-paper-unleashing-the-potential

Chattapadhyay, S. (2014). Access and use of government data by research and advocacy organisations in India: A survey of (potential) open data ecosystem. Presentation at the 8th International Conference on Theory and Practice of Electronic Governance, 27-30 October.

City of Cape Town. (2008). City of Cape Town website copyright notice. Retrieved from http://www.capetown.gov.za/en/Pages/copyright.aspx.

City of Cape Town. (2014). *Open data draft policy*. Retrieved from http://www.capetown.gov.za/en/PublicParticipation/Documents/HYS_Open_Data_Draft_Policy_version_21_February_%202014.pdf

City of Cape Town. (n.d.). Open data terms of use. Retrieved from https://web1.capetown.gov.za/web1/opendataportal/Images/OpenDataLicence2.pdf.

Creative Commons. (n.d.). Public domain. Retrieved from https://wiki.creativecommons.org/wiki/Public_domain

Davies, T. (2014). *Open data in developing countries: Emerging insights from phase I: ODDC report*. Retrieved from: http://www.opendataresearch.org/content/2014/704/open-data-developing-countries-emerging-insights-phase-i

Davies, T., Perini, F., & Alonso, J. (2013). *Researching the emerging impacts of open data: ODDC conceptual framework*. ODDC Working Papers #1. Retrieved from http://www.opendataresearch.org/content/2014/667/researching-emerging-impacts-open-data-oddc-conceptual-framework

Dulong de Rosnay, M., & Janssen, K. (2014). Legal and institutional challenges for open data across public sectors: Towards common policy solutions. *Journal of Theoretical and Applied Electronic Commerce Researc*h, *9*(3), 1-14.

Eyal, A. (2014). Cape Town's open data policy. Time to celebrate? Retrieved from ttp://code4sa.org/2014/09/27/capetown-opendata-policy.html

Hopkins, C. (2012). Kenya launches sub-Saharan Africa's first national open data initiative. Retrieved from http://readwrite.com/2011/07/08/kenya_launches_africas_first_national_open_data_in

International Council for Science (ICSU). (2014). *Open access to scientific data and literature and the assessment of research by metrics*. Retrieved from http://www.icsu.org/general-assembly/news/ICSU%20Report%20on%20Open%20Access.pdf

Janssen, M., Charalabidis, Y., & Zuiderwijk, A. (2012). Benefits, adoption barriers and myths of open data and open government. *Information Systems Management*, *29*, 258-268.

Kenei, S. (2014). Tracing the evolution of open data in Kenya. Retrieved from http://devinit.org/old_site/tracing-evolution-open-data-kenya/

Kenya National Bureau of Statistics. (KNBS). (n.d.). Terms of use. Retrieved from http://www.knbs.or.ke/index.php?option=com_content&view=article&id=193&Itemid=1070

Kenya Open Data Initiative (KODI). (n.d.). Terms of use. Retrieved from https://opendata.go.ke/terms-of-service

Korn, N., & Oppenheim, C. (2011). *Licensing open data: A practical guide* (version 2.0). JISC, Discovery, and Research Libraries UK (RLUK). Retrieved from http://discovery.ac.uk/files/pdf/Licensing_Open_Data_A_Practical_Guide.pdf

Kwamboka, L. (2013). *Open data: How Kenya did it*. Kenya Open Data Initiative. Retrieved from http://datascience.co.ke/wp-content/uploads/2015/03/Open-Data-%E2%80%93How-Kenya-Did-It.pdf

Mutuku, L., & Mahihu, C.M. (2014). *Open data in developing countries: Understanding the impacts of Kenya open data applications and services*. Nairobi: iHub Research. Retrieved from http://www.opendataresearch.org/sites/default/files/publications/ODDC%20Report%20iHub.pdf

Open Definition. (n.d.). Open definition (version 2.0). Retrieved from http://opendefinition.org/od/

Powell, M., Davies, T., & Taylor, K.C. (2012). *ICT for or against development? An introduction to the ongoing case of Web3*. IKM Working Paper No. 16, March. Retrieved from http://wiki.ikmemergent.net/files/1204-IKM-Working_Paper_16-WEB3-Mar_2012-2

Republic of Kenya. (2001). Copyright Act No. 12 of 2001. Retrieved from http://portal.unesco.org/culture/en/files/30229/11416612103ke_copyright_2001_en.pdf/ke_copyright_2001_en.pdf

Republic of Kenya. (2010). The Constitution of Kenya. Retrieved from https://www.kenyaembassy.com/pdfs/The%20Constitution%20of%20Kenya.pdf

Rizk, N. (2014). From de facto commons to digital commons? The case of Egypt's independent music industry. In J. De Beer, C. Armstrong, C. Oguamanam, & T. Schonwetter (Eds.), *Innovation and intellectual property: Collaborative dynamics in Africa*. Cape Town: UCT Press. Retrieved from http://www.openair.org.za/images/9781775821427.pdf

Roberts, A. (2014). Making transparency policies work. Freedominfo.org. Retrieved from http://www.freedominfo.org/2014/10/making-transparency-policies-work/

Rose, J., & Omolo, A. (2013). *Six case studies of local participation in Kenya*. World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/17556

Sein, M., & Furuholt, B. (2012). Intermediaries: Bridges across the digital divide. *Information Technology for Development*, *18*(4), 332-344. doi: 10.1080/02681102.2012.667754.

Van Schalkwyk, F., Willmers, M., Czerniewicz, L., & Musundwa, S. (2013). Viscous open data: The flow of data in a public university governance ecosystem. Paper presented at ICT for Development Conference, December, Cape Town.

White African. (2011). Africa's first national open data initiative: Kenya. Retrieved from http://whiteafrican.com/2011/07/07/africas-first-national-open-data-initiative-kenya/

Williams, S., Marcello, E., & Klopp, J.M. (2014). Toward open source Kenya: Creating and sharing a GIS database of Nairobi. *Annals of the Association of American Geographers 104*(1), 114–130. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/00045608.2013.846157

Wokabi, C. (2012, 10 November). Kenya open data Initiative has hit a dead end, says PS. *Daily Nation*. Retrieved from http://www.nation.co.ke/business/news/Open+data+initiative+has+hit+a+dead+end/-/1006/1617026/-/11tfwouz/-/index.html

World Bank. (n.d.). Open data defined. Retrieved from http://toolkit.dev.zognet.net/en/essentials.html

COPYRIGHT LEGAL AND PRACTICAL REFORM FOR THE SOUTH AFRICAN FILM INDUSTRY

Sean Flynn
Associate Director, Program on Information Justice and Intellectual Property (PIJIP), American University Washington College of Law, Washington, D.C.

ABSTRACT
Copyright's interest in promoting creative production is often described as requiring a "balance" between exclusion and access rights. Owners of copyright receive exclusive rights to control copies of their works, which enables authors to earn returns on their creations through sales or licensing transactions. But as important to promoting creation are the user rights in copyright law which permit building on the work of predecessors. The necessity for balance in order to promote creation is clearly evident in the documentary film industry, where producers rely on copyright ownership to facilitate the dissemination of their works through broadcasters and other distributors, and on user rights to incorporate excerpts of other copyrighted material in their work.

This article draws on a collaborative South African research project that has been working since 2008 to document influences of copyright law on the production of documentary films. The results of that research, summarised in the first part of the article, show that South African filmmakers are hampered by a legal environment that denies them copyright ownership in the majority of their projects while also denying them adequate rights to use, in their own works, elements of the works of others. The second part of the article describes capacity-building approaches and legal reforms that could be advantageous to the local film industry.

KEYWORDS
copyright, limitations and exceptions, filmmaking, fair dealing, fair use, South Africa, user rights

INTRODUCTION

The making of documentary films provides an illustration of how copyright laws can both promote and pose barriers to free expression and development of creative industries. Copyright laws help promote documentary filmmaking by providing exclusive rights of reproduction that permit filmmakers to sell and distribute their work. But documentary films also frequently require the use of historical and other illustrative content in their productions, which can implicate the exclusive rights of others.

To prevent copyright from enabling a private regime of censorship that could inhibit the production of new works, copyright laws contain what the US Supreme Court has referred to as "built-in [free expression] accommodations" in the form of limitations and exceptions to exclusive rights. (*Eldred v. Ashcroft*, 2003, pp. 219-220). Copyright limitations and exceptions, which allow quotation and other uses of copyrighted material without permission of the copyright owner in certain circumstances, may be broadly referred to as "user rights." Optimising creative production requires a careful balance between protections enabling authors to generate income from their work and user rights that permit the free quotation, use and transformation of cultural products into new creations (Okediji, 2006).

A team of legal researchers from American University (AU) and the University of Cape Town (UCT), in collaboration with organisations representing South African filmmakers, has been working since 2008 to study how copyright law, and perceptions of the law, influence the production of documentary films in South Africa (Flynn & Jaszi, 2009). The legal researchers have used participatory action research methodologies (Chevalier & Buckles, 2013; Reason & Bradbury, 2008), generating relationships with filmmakers and their organisations and working with them to evaluate the legal enabling environment in which they work and to generate policy and training responses to the knowledge generated.

The first stage of the research consisted of a survey of filmmakers to assess their practices and perceptions. In this stage, legal researchers worked with local filmmakers to draft interview questions that would be asked by fellow filmmakers of other members of their community. That research, summarised in the first part of this article, found that filmmakers are hampered by a legal environment that denies them copyright ownership in the majority of their projects, and by a copyright clearance culture that is produced by a combination of the legal regime, the clearance demands of broadcasters and other distribution channels, and inadequate filmmaker knowledge of their user rights under the law.

The second stage of the project has consisted of a series of workshops with filmmakers aimed at co-generating solutions for the copyright problems identified in the survey. The key outputs from this second stage are recommendations regarding improved filmmaker usage of user rights and recommendations to the South African government in the context of its copyright law reform process, specifically the draft Copyright Amendment Bill of 2015. These recommendations are outlined in the second part of this article, followed by a conclusion section.

SOUTH AFRICAN FILMMAKER PERCEPTIONS AND PRACTICES

In the first phase of the research, researchers from the AU Washington College of Law's Program on Information Justice and Intellectual Property (PIJIP) and the UCT Faculty of Law's Intellectual Property Unit (IP Unit) collaborated with South African documentary filmmakers in both the design and implementation of a survey. The survey sought evidence of filmmakers' perceptions and practices with regard to the use of copyrighted material in their films. Semi-structured interviews were conducted with more than 40 experienced filmmakers, supplemented by a two-day focus group meeting with dozens of additional filmmakers. The core findings of the research were that filmmakers face copyright barriers in two dimensions. First, they rarely control copyright in their own films. Second, they face enormous costs, in both money and time, to meet perceived licensing requirements for the quotation of other works in their films (Flynn & Jaszi, 2009).

LACK OF COPYRIGHT PROTECTION

South African filmmakers do not enjoy copyright protection in many of their works. Although the South African Copyright Act 98 of 1978 generally makes cinematographic films eligible for copyright in section 2(1)(d), the Act's section 21(1)(c) creates a statutory default vesting copyright in a film in the party commissioning the work rather than in the film's author.

Section 21(1)(c) states:

> (c) Where a person commissions the taking of a photograph, the painting or drawing of a portrait, the making of a gravure, the making of a cinematograph film or the making of a sound recording and pays or agrees to pay for it in money or money's worth, and the work is made in pursuance of that commission, such person shall, subject to the provisions of paragraph (b), be the owner of any copyright subsisting therein by virtue of section 3 or 4.

Since the great majority of documentary films in South Africa are produced under commission – most commonly by state-owned South African Broadcasting Corporation (SABC) – the producers of films rarely own the copyright in them, by virtue of section 21(1)(c) (Flynn & Jaszi, 2009, pp. 6, 18). The result is that many films face a copyright barrier to their further dissemination and marketing. The producers of commissioned films lack rights to, for instance, release their works to the public through open licences, to post their works on YouTube or other platforms for public consumption, or to sell their works (or derivatives of them) in other markets, local or foreign, without permission from the commissioning party. This restriction deprives South African filmmakers of important channels for revenue generation and public exposure, and for that reason has long been a key target for law reform by filmmakers, as is discussed further below.

LACK OF EXPLOITATION OF USER RIGHTS

On the flip side of copyright, South African filmmakers also lack an adequate infrastructure of user rights necessary for use of segments of other copyrighted works in the production of their works. Filmmakers described the industry as dominated by a "clearance culture", i.e., "a common law on the ground that everyone thinks is the law" requiring that every use of copyrighted material in a film be licensed (Flynn & Jaszi, 2009, p. 17). Nearly 70% of the filmmakers interviewed reported that they did not know of any instances when they could use copyrighted content in their work without a licence (Flynn & Jaszi, 2009, p. 17).

Filmmakers reported that obtaining copyright clearances for using historical footage, music, and other illustrative uses of other works in their films typically required enormous amounts of time and money. Filmmakers reported that determining who owns the copyright in a work – especially in older material – was often exceedingly complex. Even when copyright holders were known, it was "difficult to receive replies from licensing inquiries, particularly from major Hollywood studios" (Flynn & Jaszi, 2009, p. 19). Where it was possible to find and communicate with copyright holders, the fees demanded for short excerpts were often enough to sink a budget:

> Seventy-nine percent of the interviewees stated that they have problems finding affordable archive material for their films. For historical documentaries, the cost of acquiring archival material can be overwhelming. One described working on a film with a budget of R600,000 and facing a licensing fee of nearly R200,000 for 20 seconds of a 1950s song and R48,000 a second for needed historical footage. One common theme was that the SABC commissions do not provide an adequate budget to afford licensing rates from SABC's own library (Flynn & Jaszi, 2009, p. 22).[1]

This lack of exploitation of user rights restricts the production and distribution of films in South Africa. Eighty-six percent of filmmakers surveyed stated that they had avoided using important illustrative material in a film in order to avoid the licensing process (Flynn & Jaszi, 2009, p. 39). Such avoidance often degrades the value of the end product.

> Filmmakers reported replacing "dance music with mood music" and international with local news footage and cutting scenes entirely to avoid licensing requirements. One filmmaker recounted licensing a clip that contained material from a variety of sources and "to play safe, [we] decided not to use any of the material." Another reported that after paying the research and related archive costs to find historical footage, she "often just dropped" the footage from the film "just because I can't afford [clearance licenses] to broadcast or go to

1 R stands for South African rand (ZAR), which had an average value of ZAR8.2 to USD1 in 2008.

> festivals with that archive in the film." Others take pains to avoid using any copyrighted material "in order not to go through that whole [clearance process]." In sum: "If copyright wasn't an issue, we would have used far more and different stuff." (Flynn & Jaszi, 2009, pp. 23-24)

It was also found that filmmakers frequently included unlicensed material in their films, under the assumption that such inclusion was illegal (Flynn & Jaszi, 2009, pp. 2, 23-25). This perceived illegality (which was not always correct) inhibited filmmakers from access to distribution channels. Many such channels – including broadcast television, film festivals, and other outlets – require affirmations of the sort found in the SABC standard contract, which requires that distributed films "will not include any material in the PRODUCTION without obtaining the required permission, consent, and authorisation of the owners and/or copyright holders of that material" (Flynn & Jaszi, 2009, p. 19). Sixty-nine percent of the filmmakers interviewed stated they had avoided at least one major distribution channel for a film because of concerns that they could not establish clearance for some unlicensed material used (Flynn & Jaszi, 2009, pp. 22-23, 43).

The surveyed filmmakers reported that, with respect to rights clearance issues, accessing more lucrative international markets could be even more difficult. Filmmakers reported that international distributors "want to make sure everything regarding copyrights has been cleared", and "are much more vigorous" in requiring evidence of rights clearance for every piece of copyrighted material used in a film (Flynn & Jaszi, 2009, p. 18). As a result, many filmmakers – especially smaller ones – avoid international distribution opportunities altogether.

REFORMING THE RELATIONSHIP BETWEEN COPYRIGHT LAW AND FILMMAKING

The 2008 survey interviews and focus group with filmmakers showed that, at least in the perception of filmmakers themselves, they would be able to access more markets, generate more revenue for their businesses, and make better films with an improved relationship with the copyright system. During and after the survey research, AU and UCT researchers worked with filmmakers to analyse the South African Copyright Act and to ascertain whether the problems identified could be resolved through better training and understanding (e.g., through "best practices" guides for filmmakers) or whether the problems necessitated legal change. It was found that both training and statutory reform are needed to bring the industry into line with the rights enjoyed by filmmakers in many other markets.

USING EXISTING FLEXIBILITIES IN SOUTH AFRICAN LAW

With respect to user rights to quote materials in their films, South Africa's Copyright Act is not as restrictive as documentary filmmakers often assume. In some respects, the South African Act is very open and flexible in its user rights, indicating that some of the problems filmmakers face could be solved through better education of filmmakers.

RIGHT OF QUOTATION

Perhaps the most useful and flexible user right in the South African Copyright Act is its right of quotation. Section 12(3) states:

> The copyright […] shall not be infringed by any quotation therefrom, including any quotation from articles in newspapers or periodicals that are in the form of summaries of any such work: Provided that the quotation shall be compatible with fair practice, that the extent thereof shall not exceed the extent justified by the purpose and that the source shall be mentioned, as well as the name of the author if it appears on the work.

Many of the most common uses of copyrighted content in a documentary film – such as the inclusion of historical footage to illustrate a point or as the subject of commentary – may fall within this broadly worded exception. Importantly, there is no restriction to the purposes for which a quotation is used other than the specification that it be "compatible with fair practice". Some quotation exceptions from other countries are more restrictive. For example, it is common for quotation rights to be applicable only for criticism or review of the work quoted – which could rule out illustrative purposes – or for purposes of review of a work other than the one quoted.

The quotation right appears to be poorly understood among South African filmmakers. Training filmmakers on best practices with respect to quotation – including determination of what kinds of quotation in film should be considered "consistent with fair practice" – could go a long way to liberating filmmakers from some of the most onerous clearance requirements they face.

FAIR DEALING

Another potentially flexible user right can be found in the South African Act's "fair dealing" clause. Section 12(1) of the Act states:

> 12.- (1) Copyright shall not be infringed by any fair dealing with a literary or musical work-
> (a) for the purposes of research or private study by, or the personal or private use of, the person using the work;
> (b) for the purposes of criticism or review of that work or of another work; or
> (c) for the purpose of reporting current events-
> (i) in a newspaper, magazine or similar periodical; or
> (ii) by means of broadcasting or in a cinematograph film:
> Provided that, in the case of paragraphs (b) and (c)(i), the source shall be mentioned, as well as the name of the author if it appears on the work.

Unlike the quotation right, the fair dealing standard applies only to a limited range of specified purposes. And the purposes are further restricted for the use of sound recordings and excerpts of films. The fair dealing clause originally applied only to the use of a "literary or musical work". The provision was later extended to films and sound recordings by the addition of sections 16 and 17. But these extensions only applied to the purposes listed in 12(1)(b) and (1)(c), i.e., for the purpose of "criticism or review" or "reporting current events".[2]

The most useful of the permitted fair dealing purposes for filmmakers is likely the exception for "criticism or review of that work or another work". Since "[m]ost filmmakers choose a particular piece of footage or music to quote in order to not only tell a story about the facts being portrayed in the work, but also to make a comment about the material or its relation to other works", the utility of the fair dealing right is potentially quite broad (Flynn & Jaszi, 2009, p. 12). Fair dealing rights are even less understood among South African filmmakers than quotation rights. No filmmaker surveyed had heard of a "fair dealing" right in the act and none referenced it when asked about user rights in the Copyright Act.

The potential utility, and widespread ignorance among filmmakers, of the quotation and fair dealing rights in South African law indicate the potential utility of training efforts among filmmakers. Towards this end, the AU and UCT researchers have been working with filmmakers, through training workshops, to improve legal literacy among filmmakers. In addition, filmmaking organisations have agreed to develop a best practices statement "to promote greater understanding and use of existing users' rights, thus helping to lessen the burdens imposed on documentary film production by the clearance culture" (Flynn & Jaszi, 2009, p. 28).

SEEKING LEGAL REFORM

Despite the utility of some provisions of South Africa's Copyright Act for user rights, not all of filmmakers' problems could be solved through training activities. As noted above, there are very real barriers to filmmakers obtaining copyright in their works. In addition, South Africa's law in many respects fails to provide typical user rights that exist in other countries and that would be greatly beneficial to South African filmmakers.

In July 2015, the South African government released a draft Copyright Amendment Bill ("draft Bill") for comment (DTI, 2015). The publication of this draft Bill provided a key opportunity for the researchers from AU and UCT and the filmmakers to generate concrete options for legal reform to benefit the local industry. Some proposals for reform had been included in the report on the initial survey (Flynn & Jaszi, 2009, pp. 12-16), but the announced reform of the Copyright Act in 2015 provided impetus to the researchers and filmmakers to work with other stakeholders – including librarians, bloggers, Wikimedia site managers, and educators – to build a fuller catalogue of proposals that would aid local creators and users. To this end, the researchers convened a multi-stakeholder workshop in Pretoria in August 2015, and used the inputs from that workshop to draft a document entitled Joint Academic Comments on the South African Copyright Amendment Bill (Flynn et al., 2015), which was submitted to the Department of Trade and Industry (DTI) on 16 September 2015. The sections that follow contain recommendations that grew out of that process that are most pertinent to filmmakers' concerns.

RIGHTS IN RESPECT OF COMMISSIONED WORKS

As described above, the most frequent complaint about copyright law made by filmmakers in South Africa is with respect to the statutory defaults that vest copyrights for films, photographs and certain artistic works in the commissioners of the works rather than with their authors. The draft Bill of 2015 does not propose any change to section 21(1)(c) – the section vesting copyrights in films and some other works in the commissioners of those works. Section 21(1)(c) applies whether the commissioning party is public or private. Where the commissioning party is an organ of the state, additional restrictions on copyright ownership in the final product are proposed by amendments to the Act's section 5. Section 5(2) as amended would read (with the proposed language redactions in bold and the new language underlined):

> 5 Copyright in relation to the state and certain international organizations
> […]
> (2) Copyright **[shall be conferred by this section]** on every work which is eligible for copyright and which is made by <u>or funded by</u> or under the direction or control of the state or such international organizations **[as may be prescribed.]** <u>shall be owned by the state or such international organization</u>.

Expansion of state-owned copyright to every work "funded by" the state could effect a massive expansion in state ownership of authors' works in South Africa. The existing subsection, which applies only to works made "under the direction or control of the state" is far less restrictive, in that it would appear to allow authors to retain copyright in a work produced with government funding, as long as the government did not control the creative decisions in the end product. The proposed amendment would make the reach of state-owned copyright far broader. Unless restrictively interpreted, the draft Bill's language would appear to grant the state ownership in all works that receive government funding, even if the government did not direct or control the creative decisions for the work. Such a revision would be out of step with the norm in copyright laws around the world. The Joint Academic Comments on the draft Bill explain:

2 The extension of the provision to broadcasts in section 18, however, applies to the entire fair dealing clause, including for the purposes of "research or private study" in 12(1)(a).

> We are not aware of any modern copyright law that deals in this way with funded works as a category. Indeed, the typical default is that copyright, which is an author's right, vests in the individual who received the funding (or other commission), while a funding contract or another mechanism assures the funder whatever use rights it may require in the resulting work. (Flynn et al., 2015)

The copyright revision process provides an opportunity to bring section 5(2) in line with international norms, to the benefit of filmmakers and other authors. The Joint Academic Comments propose the following substitute subsection (2):

> 5.
> […]
> (2) Unless altered by terms [of] contract, copyright for state funded works shall vest in the author of the funded work and the state or international organization funder shall enjoy a royalty-free paid-in-full non-exclusive licence to the full practice and use of the full rights in the work for any purpose. In absence of contractual provisions to the contrary, data and works funded by the state or international organization shall be released or licenced under a public licence to maximise public access to such works.

The proposed subsection (2) would make author ownership, rather than state ownership, the default. As is the case with copyright normally, the default would be subject to contractual arrangements between the parties. An organ of government could choose to alter the background rule by declaring in its funding proposals, and implementing by contract, ownership rights for the state where needed in the individual case. One benefit of reversing the default could be to save the government money in its funding. Where the government does not need full ownership of the rights in a funded work, then it should not pay for such rights. Authors may be willing to work at lower costs to the government if they are permitted to retain rights to exploit the end product in other ways, including through derivative works.

With regard to section 21(1)(c), which vests copyright in films in the commissioning entity whether that entity is an organ of state or not, the Joint Academic Comments propose a similar revision. The Comments note filmmakers' experiences of having their commissioned films "locked away in the archives of commissioning entities", thus curtailing "enjoyment by the public, as well as benefits to the authors" (Flynn et al., 2015). To bring section 21(1)(c) in line with international best practice, the comments propose the following amendment:

> Ownership of copyright
> (1)
> […]
> (c) Where a person commissions the taking of a photograph, the painting or drawing of a portrait, the making of a gravure, the making of a cinematograph film or the making of a sound recording and pays or agrees to pay for it in money or money's worth, and the work is made in pursuance of that commission, the ownership of any copyright subsisting in the work as between the commissioning person and the author or authors who execute the commission shall be governed by contract; provided that in the absence of an effective, signed agreement, ownership shall vest in the author or authors and the commissioning party shall enjoy an irrevocable non-exclusive licence to use all copyright rights as may subsist in the work.

As in the proposed revision to section 5(2), the Joint Academic Comments here propose a default of author ownership subject to alteration by contract. The proposal also seeks to reflect particular interests of a commissioning party. Unlike a mere funder – who may have little interest in using the end product of the grant – a commissioning party is assumed to have an interest in using the final work. In the case of films, it is often a broadcaster who seeks to have the work produced for airing in its programming. Recognising this interest, the proposed revision for section 21(1)(c) includes a default full licence to the commissioning party to use the work for any purpose.

The value of making the default a licence, rather than ownership of copyright, is to permit the filmmaker to use the product for other purposes, such as expanding it into a feature film or making it available through other distribution channels. These rights can, of course, be modified by the commissioning contract. A commissioning party is free to negotiate for greater restrictions on the author's ability to use the work for other purposes.

FAIR USE AND FAIR DEALING

The draft Bill proposes to add a "fair use" provision as a new section 12A in the Act. In relevant part, the draft Bill's section 12A states:

> (2) Notwithstanding any provision of this Act, fair use of work for purposes such as criticism, comment, news reporting, judicial proceedings, professional advice, teaching which may include, making multiple copies for classroom use, scholarship or research is not an infringement of copyright
> […]
> (5) In determining whether the use of copyright work in any particular case is fair use, the following factors shall be considered:
> (a) the purpose and character of the use including, whether such use is of a commercial nature or is for non-profit educational purposes;
> (b) the nature of the copyrighted work
> (c) the amount and substantiality of the portion used in relation to the copyrighted work as a whole;
> (d) whether the use of the copyrighted work is fair and proportionate, by considering further that-

(i) the use of copyrighted work is of few lines of a song, literature or few parts of a film or art work for cartoon, parody or pastiche;
(ii) the use of the whole copyrighted work for cartoon, parody or pastiche for commercial use shall require the issuance of licence; and
(iii) the use of copyrighted work is compatible with fair practice in that the source and the name of the author are mentioned in the publication, broadcast, recording or the platform where the copyrighted work is displayed.

(e) the effect of the fair use upon the potential market for of the value of the copyrighted work.

The term "fair use" derives from the US Copyright Act. In the U.S., the provision has long been interpreted to allow the "fair use" of copyright material for any purpose subject to a four-part balancing test. The U.S. balancing test, similar to the draft Bill's proposed section 12A, includes consideration of "the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes", "the nature of the copyrighted work", "the amount and substantiality of the portion used in relation to the copyrighted work as a whole", and "the effect of the use upon the potential market for or value of the copyrighted work" (17 U.S.C. § 107).

The primary difference between US fair use rights and the fair dealing rights in most Commonwealth countries is the openness of the fair use purpose test. While fair dealing rights, like those in the South African Act's current section 12(1), are commonly restricted to a set list of purposes, the US fair use right is more flexible in that it is open ended. It applies to uses "for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research" (17 U.S.C. § 107, emphasis added).

In modern fair use cases, US courts have emphasised the first balancing factor especially – i.e., finding fair uses where the new work "adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message" (*Campbell v. Acuff-Rose Music*, 1994, p. 579). The standard in Campbell has become known as a "transformativeness" test. A use of a work is transformative, and therefore more likely to be held legal under the balancing test, if it serves a different purpose and audience from the original (Leval, 1990).The openness of the purposes in US fair use has allowed courts to apply the right to many purposes not mentioned in the US Act. Uses of works for purposes including parody, text and data mining, inline linking, reverse engineering of interoperable software, and other purposes have been held to be fair uses because they meet the demands of the balancing factors, especially its "transformativeness" test in the first factor (Samuelson, 2009).

Countries that have recently added a flexible exception similar to the US fair use doctrine to their copyright laws include Singapore, Korea, the Philippines, Israel, Taiwan and Malaysia. An open-ended exception based on the Berne Convention Article 9 "three step test" is being proposed for China (PIJIP, 2012a). Inclusion of a fair use right in the South African Copyright Act would have many advantages over the current section 12 fair dealing provision. Applying a flexible exception to all uses and purposes, via a fair use provision, would ensure that the South African Copyright Act is adaptable to future technologies and practices. Just as the last generation's copyright laws failed to anticipate new uses like Internet search or "mashups" of content, we cannot today imagine the future technological or cultural revolutions affecting creative production. Questions of copyright laws' applicability to new uses, or to new technologies for using and transforming works by others, should be determined by whether the new uses or technologies compete with the copyright owner's interests, not by whether the uses or technologies existed or were predicted at the time the legislation was drafted.

Explicitly stating factors to be balanced in an individual case, as the proposed new section 12A does, would usefully serve to ground the exception in an internal balance between the interests of copyright-owners and users (including downstream creators). The balancing factors provided for in the proposed section 12A, which are modelled on the US fair use right – e.g., the purpose and character of the use, the nature of the copyrighted work, the amount used, and the market effect of the use – would ground the provision in a corpus of comparative jurisprudence that is evolving and that can be consulted with application to individual cases. And the use of balancing factors that exist in US and other legal systems would also help ensure compliance with international legal restraints on limitations and exceptions in copyright law (see Geiger et al., 2014).

PARODY

The draft Bill's fair use provision (the proposed new sect. 12A) adds parody to the enumerated exceptions in the Act (in sect. 12A, subsection (4)), but at the same time includes some notable restrictions on the utility of the exception. As seen above, the proposed section 12A, subsection (5)(d)(i) would restrict the parody right by requiring licensing for any use of copyrighted works in a parody if the use is of more than a "few lines of a song, literature or few parts of a film or art work". Additionally, the proposed section 12A(4) would appear to restrict parody rights to "non-commercial use":

(4) Fair use of copyright work shall allow for some limited and reasonable use of copyright work for purposes of cartoon, parody or pastiche work in songs, films, photographs, video clips, literature, electronic research reports or visual art for non-commercial use, without having to request a permission specified in the Schedule hereto. The use includes-

(a) quoting the works of the copyright owner in a manner that is reasonable and fair;
(b) making copies of eBooks or compact discs purchased by the user; or
(c) transferring of purchased compact discs onto the user's MP3 format player.

Most fair dealing laws, and the US fair use doctrine as it has been interpreted in the courts, allow use of copyrighted material for the purpose of parody. Australia's Copyright Act of 1968, for example, provides, in section 41A, that a "fair dealing […] does not constitute an infringement of the copyright in the work if it is for the purpose of parody or satire". The current South African law does not contain a parody exception, although such use could be interpreted as being allowed under the fair dealing exception's allowance for "criticism". Additionally, the South African Constitutional Court's 2005 ruling in the *Laugh It Off* case, permitting a parody of a trademark, indicates that there may be a constitutional basis for recognising a parody exception in copyright cases (*Laugh It Off Promotions CC v South African Breweries International*, 2005).

The draft Bill's proposed limitation of use of works for parody to small excerpts in non-commercial works would have freedom of expression implications. The purpose of parody is to reproduce and transform a work sufficiently that the original work is being critiqued and commented upon. In some cases, this can require the reproduction of the entire work. Take, for example, the case when a cartoon is being parodied. It would be difficult to do so without reproducing the cartoon in whole or substantial part. Nor are parodies limited to non-commercial uses. Commercially distributed satiric cartoons, essays, films and other such works are no less contributors to free discourse and debate merely because they, or the publications they are produced in, seek to make a profit.

Both of these issues were addressed by the US Supreme Court in the *Campbell v. Acuff-Rose Music* case (*Campbell v. Acuff-Rose Music*, 1994). In that case, the Court overturned a lower court ruling that held that the hip-hop group 2 Live Crew violated copyright in Roy Orbison's song "Oh, Pretty Woman" by reproducing the "heart" of the song in a commercially distributed parody musical work. The Supreme Court found that a work's commercial nature is properly considered as only one element of the first factor enquiry into its purpose and character. In a passage that could equally be applicable to the South African draft Bill's fair use clause and the existing South African fair dealing exception, the US Supreme Court opined:

> If, indeed, commerciality carried presumptive force against a finding of fairness, the presumption would swallow nearly all of the illustrative uses listed in the preamble paragraph […], including news reporting, comment, criticism, teaching, scholarship, and research, since these activities are generally conducted for profit. (internal quotation marks removed)

The Court further reasoned that the "amount and substantiality" prong of the fair use analysis must be interpreted flexibly in relation to the purpose of the use. The Court found that

> [e]ven if 2 Live Crew's copying of the original's first line of lyrics and characteristic opening bass riff may be said to go to the original's "heart," that heart is what most readily conjures up the song for parody, and it is the heart at which parody takes aim.

Accordingly, the Joint Academic Comments urge the South African government to reconsider the draft Bill's restrictive approach to parody, noting that while commerciality may be a factor in a fair dealing or fair use analysis, it should not be determinative: "Newspapers, search engines, blogs, etc. may be for-profit commercial activities, but nonetheless [should be] eligible for fair use treatment" (Flynn et al., 2015). Also, it may be necessary for parody films and other works to reproduce more than a few lines of a song or "parts" of a film or artwork for legitimate satiric, expressive purposes, and "[t]he key is to ensure that exceptions are not 'wide open' but rather appropriately bounded" (Flynn et al., 2015) – a bounding that would still be provided by the other factors in the proposed fair use standard in the draft Bill's section 12A(5) even if the provisions on parody were made less restrictive.

INCIDENTAL CAPTURE

Many copyright laws provide exceptions that permit copyrighted material to be used when it is incidentally captured in the background of a film sequence. These provisions are sometimes referred to as "freedom of panorama" rights. It is common, for example, to capture copyrighted music or television playing in the background while shooting documentaries. Indeed, such an exception is one of the most commonly identified by South African filmmakers as an exception that they "know" exists and that they believe is a core attribute of a fair system (Flynn & Jaszi, 2009, pp. 17, 25).

However, the reality is that the current incidental use exception in the Act does not extend to the most frequently captured copyrighted content in films. In terms of section 15(1):

> 15(1) The copyright in an artistic work shall not be infringed by its inclusion in a cinematograph film or a television broadcast or transmission in a diffusion service, if such inclusion is merely by way of background, or incidental, to the principal matters represented in the film, broadcast or transmission.

This user right is limited to the capture of "an artistic work", and section 1 of the Act defines "artistic work" narrowly, as including "(a) paintings, sculptures, drawings, engravings and photographs; (b) works of architecture, being either buildings or models of buildings; or (c) works of craftsmanship […]". This definition in section 1 excludes music, film or broadcast footage, as well as literary texts. Thus, the incidental use right as currently provided by the Act would, for instance, permit the filming of a building or sculpture in the background of a scene, but not the capture of music playing on a radio or a programme playing on a television set.

The Joint Academic Comments propose applying the incidental capture exception to all kinds of works. A revised provision could provide, for example, that copyright in a work shall not be infringed "by its inclusion in another work if such inclusion is merely by way of background, or incidental, to the principal matters represented in the new work" (Flynn et al., 2015). Such a clause would eliminate the necessity of a court determining whether the used work is one specifically mentioned in the Act and allow legal judgements to turn instead upon the core factor of whether the use of the work is "by way of background, or incidental" to the new work's purposes.

ORPHAN WORKS

Filmmakers often seek access to historical materials where the authors of the works are difficult to determine or contact. (Flynn & Jaszi, 2009). Works that are subject to copyright but whose rights owners cannot be identified or who no longer exist are known as "orphan works". Without rights to use such works without a licence, the works may cease to be available to the public.

South Africa's Copyright Act does not have a specific provision authorising uses of orphan works. Adding an exception permitting the use of orphan works has been a common refrain of copyright reform advocates, including by the Open Review of South Africa's copyright law facilitated by the Shuttleworth Foundation (2010).

The draft Bill proposes an orphan works exception through a new section 22A. According to the proposed section 22A(6), those wishing to use an orphan work would first have to conduct the following:

- "a search of the records of the database of the register of copyright in the [Companies and Intellectual Property] Commission";
- "a search of reasonably available sources of copyright authorship and ownership information and where appropriate, licensor information";
- "a search using appropriate technology tools, printed publications and where reasonable, internal or external expert assistance are enlisted";
- "a search using any other database including databases that are available to the public through the internet or any other means"; and
- unspecified "actions that are reasonable and appropriate in terms of the facts relevant to the search including, actions based on facts known at the start of the search and facts uncovered during the search including, actions as directed by the Commission and review any records not available to the public through the Internet that are known to be useful in identifying and locating the copyright owner".

After completion of these steps, use of the work would require an application to the Companies and Intellectual Property Commission (sect. 22A(1), (3)), preceded by the applicant publishing the "intention to make such application in the national gazette and two (2) daily newspapers" (sect. 22A(2)). The Commission would be empowered to grant licences to use orphan works "subject to the payment of a royalty and subject to such other terms and conditions as the Commission may determine" (sect. 22A(4)).

The complexity of these proposed mechanisms for identifying and licensing orphan works would likely thwart reliance on them. The survey research found that filmmakers already spent extensive amounts of their time attempting to find, contact, and negotiate licences with owners of content needed for their films. (Flynn & Jaszi, 2009). The draft Bill's proposed orphan works licensing process would almost certainly add further complexity to an already draining process. The Joint Academic Comments thus advise a far simpler orphan works provision. Jamaica's Copyright Act of 1993, for example, provides in Article 71 that copyright

> is not infringed by an act done at a time when, or under arrangements made at a time when — it was not possible by reasonable inquiry to ascertain the identity of the author; and it was reasonable to assume — that copyright had expired; or that the author had died fifty years or more before the beginning of the year in which the act was done or the arrangements were made.

A provision of this sort would provide for the free use of orphan works without creating new and complicated administrative procedures. However, if a flexible fair-use-style right is included in the final Act, the administrative process proposed in section 22A for orphan works, even if adopted, might be unnecessary for many uses. Where the use is otherwise fair, it would not be relevant whether or not an owner could be found. (When a right-holder cannot be identified, the risk of displacing sales from that right-holder is diminished, tipping the overall balance of interests in the user's direction in a fair use determination.).

UNENFORCEABLE CONTRACTUAL RESTRICTIONS

The draft Bill includes a provision on unenforceable contracts, a proposed new section 39A(1), that would be beneficial to filmmakers. The proposed 39A(1) states:

> To the extent that a term of a contract purports to prevent or restrict the doing of any act which by virtue of this Act would not infringe copyright or which purports to renounce a right or protection afforded by this Act, such term will be unenforceable.

In the survey, a large number of South African filmmakers reported restricting the geographic distribution of their works because the films were subject to copyright clearance licences that restricted the markets that could be served. In many instances, these licences were the product of filmmakers licensing content that they could have in fact relied on user rights to justify. The new section 39A(1) would make clear that in such cases the user rights in the Act prevail.

TECHNOLOGICAL PROTECTION MEASURES

Filmmakers commonly include excerpts in their films from other media sources, including from CDs and DVDs that are often subject to technical copy protection. User rights in copyright law can be rendered ineffective if these copy controls could not be bypassed for lawful purposes. South Africa's Electronic Communications and Transactions (ECT) Act contains prohibitions on circumventing TPMs. The draft Copyright Amendment Bill, meanwhile, would clarify, in its proposed new section 28A, that the user rights in the Copyright Act prevail over the ECT Act's anti-circumvention prohibitions. Section 28A would permit circumventing TPMs for "a permitted act or an act that falls within the general public interest exceptions in sections, 12, 13, 14, 15, 16, 17, 18, 19, 19A, 19B, 19C, 19D of this Act". This exception would be useful to filmmakers in exercising their existing rights. Permitting such circumvention, as section 28A would do, for "a permitted act or an act that falls within the general public interest exceptions", would provide an important guarantee that user rights can be exercised in practice even in the presence of TPMs.

CONCLUSION

Filmmaking is one of many copyright-intensive industries in South Africa that can be dramatically affected by how the balance is struck in copyright law between owner and user rights. Currently, both sides of the equation disadvantage the local industry. On the protection side, filmmakers are regularly denied ownership of copyright in their works because the statutory default assigns all rights to commissioning parties (and most filmmaking is performed under commission). Receiving no copyrights in their works inhibits filmmakers from distributing and profiting from their work, to their detriment and to the detriment of the public they seek to serve.

Filmmakers are also disadvantaged by a rights clearance culture that exists as a product of both the law and filmmakers' perceptions of the law. Despite the existence of some notable exceptions in the current law that can provide for filmmaker use of excerpts in their films – most notably the quotation and fair dealing exceptions – most filmmakers believe that copyright requires them to acquire a licence for use of each excerpt of another work in their films. The result is that filmmakers spend large amounts of time and money attempting to license every such use, and often avoid quotations and other excerpts from other works in order to avoid licensing requirements.

As has been argued in this article, enacting a fair use clause and expanding existing exceptions for quotation, incidental use, and other uses would go a great distance towards enabling filmmakers to feel liberated to create works that include appropriate references to the works of others. But law reform, while necessary, is not the sole step that needs to be taken to free filmmakers from copyright barriers to the production of their films. A key finding from the survey research outlined above was that filmmakers do not adequately understand their current rights (Flynn & Jaszi, 2009, p. 17). Efforts to develop best practice statements among filmmakers in the US have helped to inform filmmakers in that country about their rights (see Association of Independent Video and Filmmakers et al., 2005), and have led to structural changes in the industry that have supported the exercise of user rights by filmmakers (Aufderheide & Jaszi, 2011, pp. 100-107). Similar efforts in South Africa are being considered by filmmaking organisations and such efforts may be key to ensuring that existing user rights, and any expansions of user rights that result from the current law reform, are put into practice by creators.

REFERENCES

Association of Independent Video and Filmmakers, Independent Feature Project, International Documentary Association, National Alliance for Media Arts and Culture, Women in Film and Video, Washington, D.C. Chapter. (2005). *Documentary filmmakers' statement of best practices in fair use*. Issued 18 November, in consultation with Center for Social Media (CSM) and Program on Information Justice and Intellectual Property (PIJIP), American University, Washington, DC. Retrieved from http://www.centerforsocialmedia.org/files/pdf/fair_use_final.pdf

Aufderheide, P., & Jaszi, P. (2004). *Untold stories: Creative consequences of the rights clearance culture for documentary filmmakers.* Washington, DC: American University. Retrieved from http://www.cmsimpact.org/sites/default/files/UNTOLDSTORIES_Report.pdf

Aufderheide, P., & Jaszi, P. (2011). *Reclaiming fair use: How to put balance back in copyright*. Chicago: University of Chicago Press.

Berne Convention for the Protection of Literary and Artistic Works (1886).

Birnhack, M. (2003). Acknowledging the conflict between copyright law and freedom of expression under the Human Rights Act. *Entertainment Law Review, 2003*, 24-34.

Campbell v. Acuff-Rose Music, 510 U.S.US 569 (1994).

Chevalier, J. M., & Buckles, D.J. (2013). *Participatory action research: Theory and methods for engaged inquiry*. London: Routledge.

Commonwealth of Australia (1968). Copyright Act 63 of 1968.

Department of Trade and Industry (DTI). (2013). *Draft national policy on intellectual property*, 4 September. Pretoria: Government of South Africa. Retrieved from http://ip-unit.org/wp-content/uploads/2013/09/DRAFT-IP-POLICY.pdf

Department of Trade and Industry. (2015). [draft] Copyright Amendment Bill 2015. *Government Gazette No. 39028,* 27 July. Retrieved from http://www.thedti.gov.za/gazzettes/Copyright_Amendment_Bill.pdf

Eldred v. Ashcroft, 537 U.S. 186 (2003).

Flynn, S., & Jaszi, P. (2009). *Untold stories in South Africa: Creative consequences of the rights-clearing culture for documentary filmmakers*. PIJIP Research Paper No. 20. Retrieved from http://digitalcommons.wcl.american.edu/research/20/

Flynn, S. (2015). Joint Academic Comments on the South African Copyright Amendment Bill, 2015, (with Jonathan Band, Brandon Butler, Peter Jaszi, Caroline Ncube, Denise Nicholson, Andrew Rens, Tobias Schonwetter, Rebecca Tushnet, Coenraad Visser), 16 September. Retrieved from http://infojustice.org/archives/35003

Geiger, C., Gervais, D. J., & Senftleben, M. (2014). The three-step-test revisited: How to use the test's flexibility in national copyright law. *American University International Law Review, 29*(3).

Jamaica. (1993). The Copyright Act 5 of 1993.

Jaszi, P. (2005). Public interest exceptions in copyright: A comparative and international perspective. Retrieved from http://correctingcourse.columbia.edu/paper_jaszi.pdf

Laugh It Off Promotions CC v South African Breweries International (Finance) BV t/a Sabmark International and Another (CCT42/04) [2005] ZACC 7; 2006 (1) SA 144 (CC); 2005 (8) BCLR 743 (CC) (27 May 2005).

Leval, P. N. (1990). Toward a fair use standard. *Harvard Law Review, 103*, 1105.

Mkhabela Huntley Adekeye, & Spoor and Fisher. (2008). *Unlocking the creative and economic potential of the South African television sector – recommendations for legal, regulatory and commissioning practice changes: Report to the South African Broadcasting Corporation, Independent Producers Organisation and the South African Screen Federation.* Johannesburg: Mkhabela Huntley Adekeye Inc. and Spoor and Fisher Attorneys.

Okediji, R. L. (2006). *The international copyright system: Limitations, exceptions and public interest considerations for developing countries*. Issue Paper No. 15, International Centre for Trade and Sustainable Development (ICTSD) and UN Conference on Trade and Development (UNCTAD). Retrieved from http://unctad.org/en/docs/iteipc200610_en.pdf

Program on Information Justice and Intellectual Property (PIJIP). (2012a). Appendix II: Examples of flexible limitations and exceptions from existing and proposed laws. American University Washington College of Law. Retrieved from http://infojustice.org/wp-content/uploads/2012/12/Appendix-II.pdf

PIJIP. (2012b). Masterlist: Excerpts of representative copyright limitations and exceptions, 26 November. American University Washington College of Law. Retrieved from http://infojustice.org/wp-content/uploads/2013/08/Masterlist-11262012.pdf

Reason, P., & Bradbury, H. (Eds.). (2008). *The Sage handbook of action research: Participative inquiry and practice*. Thousand Oaks, CA: Sage.

Republic of South Africa. (1978). Copyright Act 98 of 1978, as amended up to Copyright Amendment Act 9 of 2002. Retrieved from http://www.wipo.int/wipolex/en/text.jsp?file_id=130429

Republic of South Africa. (2002). Electronic Communications and Transactions Act 25 of 2002.

Samuelson, P. (2009). Unbundling fair uses. *Fordham Law Review, 77*, 2537-2621.

Shuttleworth Foundation (2010). *Report on the South African open copyright review*. Retrieved from http://ip-unit.org/wp-content/uploads/2010/07/opencopyrightreport1.pdf

United States Congress. (1976). Copyright Act, as amended. 17 U.S.C. §§ 101-810.

REVOLUTION, GRAFFITI AND COPYRIGHT: THE CASES OF EGYPT AND TUNISIA

Nagla Rizk
Professor of Economics; Director, Access to Knowledge for Development Center (A2K4D), School of Business, The American University in Cairo[1]

ABSTRACT
During and after the Arab uprisings in 2011, there was an outburst of creative production in Egypt and Tunisia, serving as a means to counter state-controlled media and to document alternative narratives of the revolutions. One of the most prominent modes of creative output was graffiti.

Within an access to knowledge (A2K) framework that views graffiti as an important knowledge good, this article outlines the author's findings from research into perspectives towards revolutionary graffiti held by graffiti artists and graffiti consumers in Egypt and Tunisia. The main quest of this work is to identify a copyright regime best suited to the priorities of both the revolutionary graffiti artists and the consumers of this art, cognisant also of the possibilities offered by increasingly widespread use of, and access to, online digital platforms. The research looked at how artists and consumers relate to the revolutionary graffiti, how they feel about its commercialisation, and how they feel about the idea of protecting it with copyright. Based on the research findings, the author concludes that an A2K-enabling approach to preservation and dissemination of the revolutionary graffiti – and an approach that would best cater to the needs of both the artists and the consumers – is provided by the Creative Commons (CC) suite of flexible copyright licences.

KEYWORDS
graffiti, Egypt, Tunisia, revolutionary art, public goods, access to knowledge (A2K), copyright, intellectual property, Creative Commons

INTRODUCTION: REVOLUTIONARY GRAFFITI IN EGYPT AND TUNISIA

Art and creative expression were at the heart of the revolutions in Egypt and Tunisia in 2011. Songs accompanied the poetic chants against the regimes. Some artists gave spontaneous theatre performances while others documented their experiences with paint. This opened up a tsunami of creative expression of various art forms, enabled by a period of political, social, and artistic openness following the depositions of Hosni Mubarak in Egypt and Zine El Abidine Ben Ali in Tunisia. This vibrant wave of creativity was arguably a reflection of a flaring revolutionary passion, in part reviving previously prohibited art forms that touched on sensitive socio-political issues.

Among these art forms, the graffiti art that sprang up in Egypt and Tunisia during and after the revolutions stood out as the most visible and durable. By virtue of its display on public walls around cities, the graffiti was, and has continued to be, accessible to the public, providing a counter-narrative to those propagated by mainstream media and the state. Graffiti has enabled artists, activists, and the public to commemorate and remember the fallen heroes of the revolution. Not surprisingly, graffiti has also provoked some of the most severe responses from the authorities.

Given its central social, cultural and political role at the historic junctures in 2011 in Egypt and Tunisia, and its importance as a knowledge good, graffiti has captured the attention of commercial ventures in both countries. Graffiti images have been displayed on the walls of galleries, pages of books, and fronts of T-shirts. Parallel to these for-profit ventures, digital platforms such as social media and independent blogs have helped document the graffiti and increase its visibility and access, without necessarily commodifying it. The main quest of this work is to identify a copyright regime best suited to the priorities of both the revolutionary graffiti artists and the consumers of this art, cognisant also of the possibilities offered by increasingly widespread use of, and access to, online digital platforms. In the course of the work, I raise a few questions. Is graffiti a public good? Can it be, or should it be, subject to copyright protection? Given its importance as a knowledge good, how can access to graffiti be provided in a manner consistent with the objectives of the access to knowledge (A2K) movement?

Guided by these questions, the research outlined in this article sought to examine the dynamics of both production and consumption of revolutionary graffiti in Egypt and Tunisia, and to get a sense of how copyright provisions could interact with these dynamics. Based on these research findings, I generate recommendations for a graffiti dissemination method – via online channels, under Creative Commons (CC) flexible copyright licences – that would seem to be best suited to A2K objectives and to the objectives of the graffiti artists and their consumers. The next section of this article outlines the research methodology, followed by a section providing the conceptual framework and research context. I then report on and analyse the research findings, followed by a section outlining my recommended use of CC licensing of online graffiti images as a suitable way forward. The concluding section provides an overview of the main findings and the core recommendation.

1 Research for this article was undertaken as part of the Open African Innovation Research (Open AIR) project, with the aid of a grant from the International Development Research Centre, Ottawa, Canada, and financial support from the German Federal Ministry for Economic Cooperation and Development (BMZ), in cooperation with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The author acknowledges the participation of the following institutions and individuals in carrying out the research: the research team at the Access to Knowledge for Development Center (A2K4D) composed of Lina Attalah, Nagham El Houssamy, Youssef El Shazli, Stefanie Felsberger and Safeya Zeitoun; Marc Michael and members of El Amouri Research Institute for their contribution to the fieldwork in Egypt and Tunisia, respectively; A2K4D affiliate Bassem Awad for providing the review of the Egyptian Intellectual Property Rights Law (EIPRL) used in this article, and Hala Essalmawi from Bibliotheca Alexandrina for help with updates on Creative Commons Egypt.

THE RESEARCH

Despite the fact that there was a great deal of analysis of the Egyptian and Tunisian graffiti that emerged during the revolution of 2011, the majority of articles published at the time focused on the political messages of the artists. Very little was known about the actual graffiti scene and its operations, e.g., about the artists who were engaged in the production of graffiti pieces such as murals, stencils and tags; how they produced their art; and how they negotiated between the illegality of their form of expression and the need to sustain a living. Similarly, not enough attention has been accorded to consumers' perception of revolutionary graffiti during politically charged eras like the ones experienced in Egypt and Tunisia.

Accordingly, fieldwork for this research proceeded on two tracks – a public survey of consumers of art; and a series of semi-structured, in-depth interviews with artists and other stakeholders – with the two sets of fieldwork activities running in parallel in Egypt and Tunisia. A series of questions was developed to guide both the public survey and the interviews. These were grouped into three sets. The first set of questions enquired about how people, both consumers and artists, relate to revolutionary graffiti. The second set of questions addressed graffiti as a source of income for the artists and probed consumers' willingness to pay. The third set of questions revolved around the issue of copyright: whether it was relevant to graffiti artists; what role it played in their art; and how they felt about their art being shared. This set also included questions about consumers' views on copyright.

Fieldwork was conducted between 2012 and 2014, with the help of research teams in Egypt and Tunisia. The research was part of a larger project looking at "revolutionary creativity" – and intersections between this creativity and copyright modalities – in Egypt and Tunisia during and after the uprisings.[2]

EGYPT FIELDWORK

In Egypt, the research was carried out by a team based at the Access to Knowledge for Development Center (A2K4D) at The American University in Cairo (AUC). The sample for the public survey consisted of 600 art consumers in Cairo. The survey was conducted at a series of venues representing some of the most important institutions in Cairo's alternative art scene.[3] Research was carried out at these art spaces because the population consuming art was concentrated there, allowing researchers to avoid high rates of negative responses and to survey a larger sample of art consumers in a cost-effective way. The questions in the survey asked participants about their levels of interest, spending patterns, and copyright outlooks for various types of creative expression. For this article, insights are taken from the answers to questions regarding graffiti and copyright.

The in-depth, semi-structured interviews with artists and other relevant stakeholders were carried out in Cairo primarily between March and June 2012, with one additional interview in March 2014. Four Egyptian graffiti artists were chosen for the interviews, based on their visibility on the streets and their prominence in the art scene. Interviews were also conducted with other arts sector stakeholders, including one blogger, one policymaker, one union lawyer, one Egyptian copyright expert, one expert on freedom of expression, and two directors of cultural centres.[4]

TUNISIA FIELDWORK

In Tunisia, the fieldwork followed the same logic, questions and methodology as those followed in Egypt. On-the-ground implementation was conducted by a research team based at the Tunis office of the El Amouri Institute. The Tunisian public survey was conducted in June 2012 in Greater Tunis, Sfax, and Sousse. Altogether 606 individuals were surveyed. As with the Egyptian survey, all the Tunisian survey respondents were consumers of art.

The interviews with Tunisian artists and other relevant stakeholders were carried out between July and October 2012. According to the same methodology and logic as in Egypt, five graffiti artists were chosen for the interviews.[5] Among the other stakeholders interviewed were three legislators, five producers, seven outlet owners, three managers of cultural centres, one trade unionist, one web radio presenter and five art distributors.

CONCEPTUAL FRAMEWORK AND RESEARCH CONTEXT

WHAT IS GRAFFITI?

The term "graffiti" is mainly used to refer to unauthorised application of brush paint, spray paint or other marking/writing material on a fixed surface in such a way that the appearance of private or public property is changed (Kimvall, 2007). Graffiti can thus include everything from writing one's name on a bathroom wall to painting an elaborate mural (Young, 2012). This heterogeneous nature renders a clear-cut definition of graffiti difficult.

---

2 In addition to graffiti, the larger research endeavour looked at music, poetry, parody and theatre. Findings on the output of independent Egyptian musicians are outlined in Rizk (2014).

3 The venues were the Cairo Opera House, Darb 1718, El Sawy (Culture Wheel), Makan, Townhouse Gallery, Rawabet Theatre, El Genaina Theatre, Beit El Harawi, After Eight, Bikya and Cairo Jazz Club.

4 The four Egyptian graffiti artists requested to remain anonymous. The blogger was Soraya Morayef (aka Suzee, for her blog, titled "Suzee in the City"). The policymaker was Hossam Loutfi, the copyright expert was Hala Essalmawi from Biliotheca Alexandrina, the union lawyer was Mohamed El Ayat from the Underground Music Federation, and the freedom of expression expert was Emad Mubarak, who is a lawyer and founder of the Association for Freedom of Thought and Expression (AFTE). The cultural directors were Moataz Nasr El Din (of Darb 1718) and William Wells (of Townhouse Gallery and Rawabet Gallery).

5 The five Tunisian graffiti artists requested to remain anonymous.

While both the name on the bathroom wall and the mural are illegal, the latter has the potential to be publicly appreciated and treated as art (Young, 2012).

Some cities have dedicated walls for graffiti artists, and have commissioned artists to paint murals on public buildings (Young, 2012, p. 4). Graffiti as an art form has also found its way into renowned galleries and museums (Art Radar, 2010). Graffiti images produced by Egyptians and Tunisians during and after their countries' uprisings have become popular both in their home countries and beyond. For the purposes of the research and this article, I did not adopt the broader potential definition of graffiti as "street art", i.e., graffiti as any form of artistic expression in urban space, including light installations, guerrilla gardening, and stickers (Lerman, 2013, pp. 298-99). Rather, I focused on graffiti images that were produced as works of art that convey specific political and socioeconomic messages.

Recent developments – particularly graffiti finding its way into mainstream galleries and museums – are raising questions about the nature of graffiti itself. Its fundamentals as an art form are essentially anti-authority (usually done without permission), anti-capitalist (graffiti artists are not typically remunerated for their activities), and inclusive (graffiti art usually takes place in public and can thus be seen by everybody). Displaying graffiti in a museum or a gallery challenges these features, as the pieces need to be vetted and paid for by the curators, and access to the exhibition spaces will often be restricted to visitors willing and able to pay a fee or having a social stature that affords them access to such spaces (Art Radar, 2010). Such developments have also taken place in the Egyptian context, for example, where pictures of revolutionary graffiti displayed on public walls were commodified and sold as part of a book by a third party.

Also requiring interrogation is the fact that graffiti apparently no longer neatly fits our customary dichotomies of legality versus illegality, art versus vandalism (Young, 2012). Young (2012) points to the fact that despite its huge popularity in many regions worldwide, graffiti is still mostly seen, in the eyes of authorities, as mere vandalism. Most governments regard graffiti as illegal activity that requires significant public funds for removal. And agitating to many authorities is graffiti's often political messages, providing a means to express ideas that might otherwise have no platform. In the United States, for instance, youth have used graffiti to express themselves in society and to reclaim public space from which they have systematically been excluded (Ferrell, 1995). An Egyptian example is the way in which the graffiti in Cairo's Mohammed Mahmoud Street has served as a space to commemorate the victims of police violence (Abaza, 2013).

Meanwhile, citizens tend to have a more varied response. In general, they seem to be accepting of graffiti art; yet, at the same time, they are overwhelmingly disapproving of mindless tagging and random scrawls (Campbell, 2008). For some, graffiti artists, by illegally writing or painting on someone else's property, question the very notion of property ownership and are "flouting cultural norms that valorise property ownership and the supposedly inviolable legal boundaries around places drawn by the title deeds of ownership" (Young, 2012, p. 15).

Regardless of how various sections of society perceive graffiti, there can be little doubt that the act of creating graffiti establishes a connection between artists and the city, with the artists leaving their mark upon the city's surface, and with the artists often taking a substantial risk (Young, 2013). The Egyptian and Tunisian graffiti scenes during and after the 2011 revolutions provided strong examples of the power of graffiti. In highly controlled urban spaces, these images provided outlets for political and social commentary during and after the protest movements against autocratic rulers.

GRAFFITI AS QUASI-PUBLIC GOOD

Graffiti, as a knowledge good, has public-good characteristics. By definition, a typical public good is non-rival and non-excludable. Non-rivalry means that one person's enjoyment of the good does not take away from or curtail its enjoyment by another. Non-excludability means that no one can be denied access to the good. A classic example of a public good is a lighthouse: enjoyed by all, accessible to everyone.

The marginal cost of producing a public good is zero, meaning that the production of every additional unit of the good comes at no additional cost. As such, efficiency entails offering public goods in the "market" at the price of zero. But who wants to produce a good whose price is zero? This lack of incentive for private entities to produce public goods results in their underproduction. This problem, commonly known as the "public goods problem", is mitigated when government involves itself as the producer – or as regulator of alternative forms and models of production.

Graffiti is non-rival because one person's enjoyment of a graffiti image does not "use it up" for others; inspiration from graffiti is infinite and non-segmentable. An endless number of people can see graffiti in one location without increasing its cost of production. As well, one can argue that graffiti art is non-excludable. By virtue of its creation and display in public spaces, no one can be excluded from seeing, enjoying or benefiting from it. Unless a wall is built to hide it, or the image is erased, a graffiti image painted on a wall is out there for everyone to view. Graffiti thus fits the definition of a public good.

Things become more complex, however, when graffiti images are "bundled" in books, merchandise, or museum exhibits. In these scenarios, graffiti images are being "packaged" together with a good (a book, a T-shirt, or museum space) that has potentially rivalrous characteristics. There, rivalry and exclusion are likely. One may argue that, in these contexts, graffiti becomes a quasi-public good: the image itself is non-rival, but it is offered in a medium or context that may be rival and is excludable, through the price of the book or T-shirt, or the cost of the museum

entry fee. This is a similar logic to Romer's depiction of music (Romer, 2002, p. 213), where the music piece (a public good) is recorded and packaged in a compact disc (a private good) – an argument I have used in analysing Egypt's independent music industry (Rizk, 2014).

But graffiti is not music. The very nature and soul of graffiti come from its placement on walls, proactively reaching out to us, as opposed to us having to look for it. Graffiti images speak to us through our surroundings. They confront us; and through them we confront ourselves. Still, like music, the graffiti wall image is a public product, the birth child of a creative artist or artists; replicas and derivatives are then built and packaged into a private medium, and most often commercialised. The message may be one and the same, but the medium and mode of delivery have now been fundamentally altered. And, as explained above, changes in medium and mode of delivery, and commercialisation, can result in non-public-good characteristics. A trade-off emerges, between maximising public welfare by expanding access and maximising private incentives by limiting access. Nevertheless, at the same time, these ventures may have the potential to disseminate graffiti to a wider audience, by preserving the transient street art and making it accessible to those who are not in close proximity to the walls where it was created.

Graffiti can also be offered through digital platforms. Digital images of graffiti, like their physical versions, can be characterised as quasi-public goods. While all free online content is, in principle, also non-excludable, that is not always the case, as those who do not have access to digital technologies (e.g., computers and mobile devices) and/or the Internet are effectively excluded from viewing this content.

Beyond the public and private good characteristics of packaged graffiti, in physical or some digital media, commodification also potentially affects the nature of the graffiti movement, and may not necessarily align with the artists' motivations. Because graffiti is a form of "revolutionary" art with explicitly political messages, commodifying graffiti and using it for financial gain may collide with its original intentionality. As will be discussed later in the "Research findings and analysis" section of this article, most of the artists interviewed in the research agreed that they did not intend to use graffiti as a source of income.

THE GRAFFITI SCENE IN EGYPT AND TUNISIA

In Egypt, graffiti existed before the 2011 uprising but consisted mostly of dispersed individual pieces – especially in Alexandria, via the work of artist Aya Tarek (Morayef, 2014; Nagy, 2011), but also in Cairo, where artists faced criticism and defamation in the media (Maslamani, 2013). In Tunisia, in contrast, I could not find a record of a significant graffiti movement before the uprising.

Graffiti offers a political message that counters the state narrative. In Egypt, during and after the uprising in 2011, state-controlled media – mainly the Egyptian Radio and Television Union (ERTU) and state-owned newspapers such as Al-Ahram – strictly followed the state's account of events and not only omitted mention of the crimes of the state but also slandered demonstrators or omitted mention of their existence (Alexander & Aouragh, 2014). In Tunisia during the revolution, Tunisian media experienced tight controls by the government (El-Issawi, 2012). State-run television channels such as Tunis 7 and Channel 21, practised "systematic and organised silence, placing a blackout" on reporting about the demonstrations in January (Miladi, 2011, p. 11).

Excluded from official discourses, Egyptian and Tunisian artists used their works not only to document their versions of events, which were receiving distorted coverage by state media, but also to express themselves and their positions with respect to these occurrences. This led to an outburst of artistic creativity in the form of music, poetry, photography, comedy, street theatre and graffiti. Graffiti exploded onto the streets and became intimately linked to the revolutions, serving both as a way to commemorate those killed during the revolution and as a powerful counter-narrative to the official version of events (Abaza, 2013). In post-January 2011 Egypt and Tunisia, graffiti remained one of the only visible reminders of the revolutions (Lau, 2012-2013; Biel, 2011).

The claim that graffiti represents an alternative platform for a certain group of people does not, however, preclude the fact that there were still large percentages of Egyptians and Tunisians who regarded graffiti more as a nuisance or as vandalism than as art, or that there are many graffiti practitioners in each country who care less about their messages than about the act of doing graffiti (Elansary, 2014).

At the state level in Egypt, graffiti was met with control. In 2011, there were unsuccessful attempts by Egypt's Ministry of Culture to co-opt and confine the art form (Nagy, 2011). In November 2013, the interim Egyptian government secretly drafted a bill that criminalised "abusive graffiti" on walls of public and private buildings. General Adel Labib, the Local Development Minister at the time, announced in a press conference that the bill criminalising graffiti included punishments of prison sentences up to four-years and fines amounting to EGP100,000 (roughly USD14,000), in addition to confiscation of the tools used in painting the graffiti (Gulhane, 2013). The anti-graffiti law was received with much criticism from members of civil society and the art community, who saw it as a tool to limit freedom of expression. Luckily, amid the political turmoil in the country and absence of parliament, the anti-graffiti bill was never enacted.

GRAFFITI AND COPYRIGHT

In Egypt, intellectual property is governed by Law No. 82 of 2002 on the Protection of Intellectual Property Rights (Arab Republic of Egypt, 2002). Copyright and related rights are addressed in Book Three of the Law (Articles 138-188 of the Law),

within which Article 140 clearly offers protection to drawings, illustrations and works of applied art. In Tunisia, copyright and related rights are governed by Law No. 94-36 of 24 February 1994 on Literary and Artistic Property, as amended and supplemented by Law No. 2009-33 of 23 June 2009 (Republic of Tunisia, 1994, 2009). Article 1 of the Tunisian Law offers protection to "works executed by painting, drawing" to "drawings and graphic and three-dimensional reproductions of a scientific or artistic nature", and to "tapestries and articles of artistic handwork, including both the drawings or models and the work itself" (Republic of Tunisia, 1994, 2009).

In both countries, copyright protection is automatic and does not require any formalities or registration. Also in both countries, the copyright provisions provide economic rights that allow rights-holders to extract economic value from utilisation of their works, while moral rights allow authors to claim authorship and protect the integrity of their works. In Egypt (Article 141 of Law No. 82 of 2002)[6] as well as in Tunisia (Article 1 of Law No. 2009-33), copyright protection is contingent on the work being created in a fixed tangible medium; and the respective copyright laws in both countries do not protect ideas. Both the Egyptian and Tunisian laws offer a general copyright protection term of 50 years after the death of the author.[7]

Thus, works of art are protected by the copyright laws in both countries. Some may ask, however, is *illegal* art, such as graffiti, protected? There is no case law addressing this question in either Egypt or Tunisia. But my view is that graffiti is covered by copyright in these countries, because I find the work of Lerman (2013) and Davies (2012), analysing the US context, persuasive. These authors find that copyright law is neutral towards works created by illegal means, i.e., copyright is a right over the tangible, fixed aspect of the work only, and does not exclude works created by illegal means. Davies draws similarities to obscene and fraudulent works, which have been deemed protectable by copyright in court (Davies, 2012, pp. 31-35). Also supporting the view that graffiti is protected by copyright are experts such as Bonadio (2014), Seay (2012, pp. 6-7), Howell (2011) and Scassa (2013), as well as bloggers such as Fruit Pastiche (2011) and those writing for the Points of Law blog of the Incorporated Council of Law Reporting for England & Wales (ICLR, 2013).

Another important aspect of many copyright laws, including those of Egypt and Tunisia, is regulation of moral rights. Generally speaking, moral rights refer to the author's right to claim authorship and to protect the integrity (i.e., to object to distortion) of a work. Unlike economic rights, in both laws there is no fixed duration after which moral rights expire, and typically they are inalienable (i.e., they cannot be sold or transferred). Article 145 of the Egyptian Law states that "[a]ny disposal of any moral rights stipulated in Articles 143 and 144 shall be considered null and void" (Arab Republic of Egypt, 2002). In Tunisia, the Law allows for transmission of moral rights only by way of inheritance, making no provision for any other kind of disposal (Republic of Tunisia, 1994, 2009).

It is clear, in my view, that graffiti works are covered by copyright in Egypt and Tunisia. However, there is ambiguity about the extent to which the powerful messages of graffiti are fulfilled when graffiti artists exercise all the copyrights available to them. Graffiti has a very public nature, and as I outline below, the Egyptian and Tunisian graffiti creators and consumers have expressed a desire to have wide dissemination of, and access to, graffiti. Thus in my analysis, the ideal would be for Egyptian and Tunisian graffiti artists to forgo some of the rights provided to them by copyright law, so as to ensure wide distribution of their works.

Lethem (2007, p. 66) quotes Hyde's (1983) convincing argument that art "that matters to us – which moves the heart, or revives the soul, or delights the senses, or offers courage for living, however we choose to describe the experience – is received as a gift is received". Receiving such a gift, Lethem continues, establishes an emotional bond between the creators and receivers of such art, which is qualitatively different from the relationship between people engaged in commercial activity. Art that is a gift to society, according to Lethem, is harmed by copyright protection, because such protection has the potential to prevent society's full access to it. While Lethem's critique of the effects of copyright protection is made for art in general, I argue that the critique is especially relevant to graffiti.

Graffiti speaks to us in an unmitigated, direct way. It confronts us with no middleman. It infiltrates our daily lives. It faces us, giving voice to people who find no other platform for their expression and who consciously choose a public outlet, the street, to express themselves. By painting their graffiti on the city's walls, these artists establish a bond with us and between them, their surroundings, and society – often by putting themselves at risk from the authorities. This bond is not only a visible marker of the struggles fought, lost, and won, during the revolutions, but also a historical testament of the revolutions in Tunisia and Egypt – in the form of art. Additionally, art in general, and graffiti in particular, is most meaningful when it builds on notions, ideas, and images, that already carry meaning in our society – when it challenges our preconceived notions of the world in which we live. As such, I argue that graffiti is indeed a gift to society, and hence, would be harmed if its creators chose to retain all the rights granted to them by copyright protection, i.e., rights that would prevent society's full access and/or the ability of others to build on it.

Having said that, there can be some cases where graffiti creators could find some of their copyrights useful as a means to protect their works against unauthorised use and reproduction. Examples of unauthorised use and reproduction include the book *Tattooed Walls* (Rosenstein & Madden, 2006), which includes numerous pictures taken by Peter Rosenstein of the work of a group of graffiti artists referred to as Tats Cru and others. Rosenstein did not seek the permission of the graffiti artists to use photographs of their graffiti art in his book, as he deemed it "fair use". Nevertheless, due to the complaint of the artists, the book publisher removed the book from its catalogue one month after

6 The text of the Egyptian article reads: "Protection shall not cover mere ideas [i.e., facts], procedures, systems, operational methods, concepts, principles, discoveries and data, even when expressed, described, illustrated or included in a work."

7 For works of photography in Tunisia, the 50-year term is calculated from the date of publication as opposed to the date of the author's death.

its release in 2006 (Gonzalez, 2006). There have also been cases involving the display of photos of graffiti art in galleries without the permission, or remuneration, of the artists (Lerman, 2013), and there have been instances where graffiti from Arab uprisings was commercialised without the artists' permission. In one instance, a prominent store in Egypt used graffiti images as the design of its cup coasters without the artists' permission (Egyptian artist, pers. comm., June 2012).

ALTERNATIVE LICENSING

A useful, middle ground – retaining some elements of copyright protection while avoiding the potential negative impacts of full protection – is offered by alternative models of copyright licensing. Alternative licensing of copyright materials has sparked some limited interest in Egypt. In June 2007, Bibliotheca Alexandrina signed a memorandum of understanding with Creative Commons (CC) to translate CC licences into Arabic and adapt them where necessary in accordance with Egyptian law. Through the use of CC licences, creators of copyrighted works are able to grant users certain permission-free uses, including the right to copy, distribute, and even, under some of the CC licences, adapt and/or make commercial use of the works. CC licences eliminate the need for negotiation of usage rights between the licensor (copyright owner) and the licensee (user), providing standardised licences for various re-use cases that do not require any commercial compensation for the copyright owner. Thus, instead of falling under a typical copyright protection umbrella of "all rights reserved", CC alternative licences follow a "some rights reserved" approach, seeking to create "a balance between the reality of the Internet and the reality of copyright laws" (Creative Commons, n.d.1). These alternative licences allow creators to decide which rights they reserve and which rights they waive, so that users and other creators use, share, distribute and build upon the original works.

Bibliotheca Alexandrina translated the CC licences into Arabic and coordinated a process through which these "unported" (not linked to a specific jurisdiction) versions of the licences were reviewed and amended to ensure compatibility with Egyptian law. The finalised CC licences have been available since October 2013, and are the first set of Arabic-language CC licences (Essalmawi, 2014). The newer versions 4.0 of the CC unported licences, which aim at being international and ready to use around the world, thus not requiring any porting, are currently being translated into the Arabic language. There is no documented use of the ported Egyptian CC licences. Nevertheless, an example of use of the unported CC licence is Egyptian news website *Al Masry Al Youm*, and its English version *Egypt Independent*, which use 3.0 unported CC licences for their video and caricature content online.[8]

There is no official Creative Commons presence, or CC affiliate, in Tunisia. However, there have been small-scale endeavours to adopt CC licences in the Tunisian blogosphere. Notably, the Tunisian blogging platform Nawaat.org has long been operating under a CC licence. In addition, Nawaat.org participated in organising the Third Creative Commons Arab Regional Meeting and Concert in Tunis in 2011, launching discussions on open licensing matters in the country (Ratta, 2011).

Most of the CC licences allow the user to make "derivative works" i.e., to make alterations. It must be pointed out that depending on their nature, such alterations could also affect moral rights. We saw above that Egyptian Law does not allow a rights holder to engage in "disposal" of a moral right, and the Tunisian Law only allows transmission of moral rights via inheritance of moral rights). Cognisant of this potential difficulty presented by national moral rights provisions of the sort present in Egypt, Tunisia and other countries, the legal code for the aforementioned 4.0 international versions of CC licences states that

> [m]oral rights, such as the right of integrity, are not licensed under this Public License, nor are publicity, privacy, and/or other similar personality rights; however, to the extent possible, the Licensor waives and/or agrees not to assert any such rights held by the Licensor to the limited extent necessary to allow You to exercise the Licensed Rights, but not otherwise". (Creative Commons, n.d.2)

This licence wording specifies that the copyright-holder, in terms of the licences, "waives and/or agrees not to assert" moral rights – e.g., the right to control the making of derivative works – that are not "personality rights". Thus, the CC 4.0 licence sidesteps the (debatable) argument that to "waive" rights is to "dispose" of them. With this wording, the licensor using a CC licence agrees "not to assert" any non-personality rights that cannot be waived in terms of the national law.

RESEARCH FINDINGS AND ANALYSIS

As outlined above, the fieldwork (public surveys and semi-structured interviews) revolved around three sets of questions, namely: how art consumers and graffiti artists (1) relate to revolutionary graffiti; (2) feel about artist remuneration for graffiti works; and (3) view matters of copyright in relation to graffiti. The research findings are now presented according to those three focus areas.

RELATING TO REVOLUTIONARY GRAFFITI

Graffiti artists in both Egypt and Tunisia said they were motivated primarily by a desire for political expression. As revolutionary artists, they perceived that their creativity was their best means of getting a message across to the government, reaching out to citizens, spreading awareness and narrating the country's current state of affairs. One Tunisian graffiti artist explained, "Our purpose is to get the messages out through images, ideally in a public place so that it might draw the pedestrians' attention, so as to be able to transmit our messages and our ideology" (Tunisian artist, pers. comm., July 2012).

8 The following link provides more information on the types of CC licences they use: http://www.egyptindependent.com/node/70

Ganzeer, an Egyptian artist who contributed to the graffiti scene in Egypt and is now living in the United States, called his graffiti an "alternative media campaign" to counteract propaganda from official news outlets" (Ganzeer, in Pollack, 2014). As an Egyptian artist interviewed for this research stated:

> The media wasn't with you […]. So, your only means of expression were the streets. They're your canvas. You'll draw on it and present your message. (Egyptian artist, pers. comm., April 2012).

Only two of the four Egyptian artists and two out of the five Tunisian artists interviewed had produced art – any kind of art – before the revolution, and even these previously active artists said that they had expressed themselves more actively through the events surrounding the uprisings than they had before. The political events surrounding the uprisings in both countries impelled artists (both experienced artists and newcomers) to express themselves with graffiti. One of the Tunisian artists emphasised how it was "essentially the present state of the country, which has pushed me to do graffiti" (Tunisian artist, pers. comm., July 2012).

The driving role of political realities was also highlighted in the Egyptian public survey responses. When asked how they developed their interest in graffiti, 59% of Egyptian public survey respondents who said they liked graffiti listed "political events" as the main driver – as opposed to being encouraged in this interest by family, friends, advertising, Facebook, television or radio.

The fieldwork also showed that Egyptian graffiti artists were aware of the role of their art as a component of knowledge development and dissemination, i.e., art's role in building on and challenging notions, ideas, and images that already carry meaning in society. Graffiti artists interviewed spoke of incorporating Egyptian cultural icons into their works, from famous actors and singers to well-known proverbs and quotes. Similarly, Tunisian graffiti artists spoke of making use of the poems of Tunisian icons, such as Aboul Kasem al-Chabbi, in order to add a further layer of meaning to their art (*Al-Akhbar*, n.d.). Here we see the graffiti artists seeming to correspond to Lethem's (2007, p. 65) conception of the "next generation of creators", who sample, satirise and reframe culture and art – in this case with graffiti.

GRAFFITI AS SOURCE OF INCOME

None of the graffiti artists interviewed in Egypt or Tunisia said they drew their main income from art. Apart from one Tunisian artist, the artists did not consider graffiti a valid source of income, even though they were artists by profession. In Egypt, the artists' perception was that since their source of inspiration was communal events, they should not impose price barriers (e.g., by commercialising their art and selling it in galleries, or in the form of consumer goods such as T-shirts) for bringing these realities back to the community in a creative form.

The artists also displayed negativity towards commercialising or commodifying art that is of a revolutionary nature. All interviewed artists in Egypt and Tunisia stated in strong terms their refusal to earn money from their revolutionary graffiti art. As a tool for political expression and participation, the revolutionary graffiti could not retain its integrity if it needed to sell to survive. Its political nature required some independence from the laws of the market. In the words of one interviewed Tunisian artist, "[graffiti] art must be free, we just want our message to be transmitted to the Tunisians, we don't need any money" (Tunisian artist, pers. comm., July 2012). The reputations of those who did opt to commercialise had become significantly tainted, as they were regarded as trying to profit from a revolution and its martyrs (Egyptian artist, pers. comm. May 2012). However, some Tunisian artists felt a distinction could be made between revolutionary and commercial (non-revolutionary) graffiti, and did not object to being remunerated for commercial graffiti art, with one such artist stating that "[e]verything has got a price; we could engage in commercial art" (Tunisian artist, pers. comm., July 2012).

The majority of respondents to the public consumer surveys in Egypt and Tunisia (96% and 64% respectively) believed that graffiti should be provided free.

PERCEPTIONS ON GRAFFITI AND COPYRIGHT

Most of the graffiti artists interviewed in Egypt and Tunisia knew of the existence of copyright, but at the same time felt that it was of no use and inappropriate. In Egypt, distrust of the copyright system was based on perceptions that the law protects the powerful, that judges and courts do not care about art and that copyrights serve industry more than content creators. Indicating the irrelevance of copyright to his daily work, one Egyptian graffiti artist stated that "in graffiti, there's no such thing as copyrights or [other forms of] intellectual property" (Egyptian artist, pers. comm., May 2012). Another Egyptian graffiti artist said: "I don't understand anything about copyrights. And what I do, I find stuff on Facebook or I see it somewhere and I reuse it for stencils. How could I claim copyrights [in my works]?" (Egyptian artist, pers. comm., June 2012). Similarly, the Tunisian artists did not believe that copyright was relevant to their work.

A majority of the respondents (consumers and artists alike) in both countries felt that graffiti art should be a public good, i.e., a shared public resource. "I think art is a public good for people to see, and not for people to own," said one Egyptian graffiti artist (Egyptian artist, pers. comm., June 2012). In that spirit, none of the interviewed graffiti artists in Egypt or Tunisia said they minded if their work was shared. "I don't care if they steal my stencils and sell them. Let them make money. Don't I produce this for the street?" said one Egyptian graffiti artist (Egyptian artist, pers. comm., June 2012).

In some cases, and to some extent because of graffiti's close link to political activism and the revolution, it was found that artists did not even claim ownership of their graffiti once it had appeared in a public space (Egyptian artist, pers. comm., April 2012). Some interviewed artists, in both Egypt and Tunisia, said they were more concerned with getting their message across than receiving credit for their art. Egyptian artist Amr Nazeer underlined that it did not matter to him if people reproduced his pieces without mentioning his name, because "[i]ssues such as copyrights don't matter at all in the case of the revolution" (A. Nazeer, pers. comm., April 2012).

Graffiti artists themselves apply a very similar logic to that of Lessig (2004, 2009) – who argues for the importance of distinguishing between merely copying someone's work and building on it, with the latter activity being a fundamental element of creativity and cultural production – in the way they evaluate new creations and copies. It was found that in the graffiti scenes of Egypt and Tunisia, it is commonplace for a second artist to draw over someone's work, or add something new to an existing piece. This is regarded as the natural, and even desired, development of graffiti, part of its ephemeral nature of illegal art on the streets (Egyptian artist, pers. comm., May 2012; Abaza, 2013). As one Tunisian artist explained, "There's the 'must' to recycle it all and to do it all again from the very beginning" (Tunisian artist, pers. comm., October 2012). A number of Egyptian graffiti artists pointed out that it was necessary in their field to borrow and build on images that had been created by others. This is similar to how hip-hop artists sample and build on each other's music.

Although some graffiti artists interviewed said they were unconcerned with matters of attribution, most were. For example, many said they regarded it as acceptable if an artist reproduced another's work, but only as long as she or he also attached the original artist's signature tag (a requirement that, as one Tunisian artist noted, becomes problematic when "there is no signature, the works aren't signed" (Tunisian artist, pers. comm., October 2012)). In spite of the potential difficulties of ensuring proper attribution, all graffiti artists interviewed in Egypt regarded trying to pass off someone else's work as one's own as a grave misstep that would cost the copycat her or his reputation among the other artists (Egyptian artist, pers. comm., June 2012). The graffiti artists seemed to be aware of a degree of efficiency in their communities' self-regulation of IP claims through peer monitoring and shaming – with reputation viewed as a more effective tool of control than legal mechanisms. Social norms serve an important function in regulating intellectual property among graffiti artists, specifically the right to attribution.

The surveys of art consumers in Egypt and Tunisia showed that the majority in both countries (74% and 75% respectively) agreed that graffiti should be protected by copyright. But at the same time, we saw above that the majority of consumer respondents in both countries felt that graffiti should be offered free. These seemingly contradictory responses can be resolved when the notion of copyright is unpacked to encompass alternative models beyond the "all rights reserved" conventional regimes. Consumers' responses trigger the question: where is the middle ground, in which graffiti art works can be offered free and at the same time protected by copyright? And what of the fact that the graffiti artists themselves seem not to be interested in financial remuneration or in copyright protection, but at the same time (in most cases) put a high value on attribution? Is there a knowledge governance model that can cater to these potentially conflicting attitudes among the artists, and among the consumers, within an A2K framework? It is my contention that online galleries of graffiti images, posted by the artists under Creative Commons licences, could provide one viable way forward.

ONLINE DISTRIBUTION OF GRAFFITI UNDER CC LICENCES

The priorities of Egypt's and Tunisia's graffiti artists, and of the consumers of graffiti, could potentially be met by graffiti artists making copies of their works available online under a Creative Commons licence, specifically the CC Attribution (BY) licence. In the words of Creative Commons, this form of distribution would allow artists a "simple, standardized way to grant copyright permissions to their creative work" that would allow the art to be "copied, distributed, edited, remixed, and built upon, all within the boundaries of copyright law" (Creative Commons, n.d.1). CC licensing can help artists by providing them with "copyright licenses and tools [to] forge a balance inside the traditional 'all rights reserved' setting that copyright law creates" (Creative Commons, n.d.1). Use of the CC BY 4.0 licence – which essentially allows an unlimited range of uses of the work, on the sole condition that the author of the work is credited – would align with the finding that the one (and apparently only) right that most of the interviewed graffiti artists have a strong wish to preserve is that of attribution.

Of course, this recommended course of action only caters to licensing of online copies of graffiti images, as opposed to the offline versions (the physical graffiti images on walls), because CC-licensing of the offline graffiti images (via physical painting of the CC licence name and logo, with a link to the full licence) is not practical. Notwithstanding that potential limitation, artists' online distribution of their graffiti images under the CC BY licence would help the artists secure attribution, while fitting into the copyright "permission culture" (as described by Lessig (2004)). This kind of distribution would also allow for the flexibility that graffiti artists need in order to preserve their openness-oriented, A2K-oriented practices, and their adherence to the anti-authority, anti-capitalist, inclusive non-traditions of graffiti. This can be ensured while also allowing artists to lead active and fulfilling lives as acknowledged and accredited artists.

Expansion of online dissemination of graffiti art aligns with the growth of digital platforms that act as a medium for the preservation of street art. These have expanded given the rise of Internet penetration and social media usage in both Egypt and Tunisia since the uprisings of early 2011. In Egypt, one of the interviewees, Soraya Morayef (known as Suzee), has her own blog, "Suzee and the City" where she has been sharing her photographs of graffiti on the streets

of Cairo since June 2011. In Tunisia, a similar blog, "Tunisia Graffiti Project" has been sharing photos of graffiti since August 2011, and the Facebook page "Street Art in Tunisia" is also active to the present day. And graffiti artists, such as Egypt's Ganzeer, have social media pages where they post their work and share their political opinions.

These aforementioned online outlets are freely available and entirely non-rival. There is always, as mentioned before, excludability through having to pay to access the Internet and/or purchase the digital device. Nevertheless, there are numerous potential benefits to disseminating and preserving graffiti using these free online digital platforms as opposed to offline commercial ventures. First, blogs, Facebook pages, Twitter accounts and other outlets avert the issue of reaping profits from political, revolutionary art. Second, these outlets seek to respect the graffiti artists' attribution rights, with images generally attributed to their respective artists – and, even when a piece is anonymous, it is not "stolen" nor is credit for it appropriated. Third, such outlets provide artists with the opportunity to add a CC licence to their work – something rather impractical for graffiti displayed on a wall.

The artists interviewed were generally favourable towards digital means of sharing their work, in spite of a degree of ideological opposition to the notion of giving a degree of permanence to a typically short-lived and ever-changing artwork. In fact, the blogger Suzee stated that she had "always been notified of new works either through them [the artists] or their friends", thus indicating their support for her blog and their desire for online exposure (S. Morayef, pers. comm., June 2012).

CONCLUSIONS

Graffiti has gained large popularity as a provider of an alternative narrative of the Egyptian and Tunisian revolutions. It has become the target of various commercial ventures, which have helped preserve and disseminate graffiti but, at the same time, have erected price barriers to access and, in some cases, deprived artists of attribution rights to their works. Also, graffiti has been widely shared on non-commercial digital platforms, which has helped to document the graffiti but, unfortunately, this has sometimes been done without securing the artists' permission. In this context, and from a perspective prioritising access to knowledge (A2K), the research outlined in this article examined the motivations and attitudes of graffiti producers and consumers in two countries in relation to three themes: the revolutionary graffiti itself; its commercialisation; and its potential copyright protection. Several key findings emerged in relation to each theme.

The graffiti itself was found to be a means to provide an alternative narrative of the political surroundings, and a voice that frequently opposes that of the state. This counter-narrative reaches out to the public through city walls, emitting socially and political relevant signals that touch viewers. This role has rendered graffiti intricately linked to the revolutions in both countries and its societal relevance has a bearing on how artists and art consumers relate to graffiti. The images have also emerged in non-commercial digital platforms, as well as bundled with other merchandise in a commercial manner.

In respect of commercialisation, the artists surveyed were found to have an aversion to receiving financial remuneration for their revolutionary graffiti art. Similarly, the majority of the surveyed consumers of art agreed that graffiti art should be offered free. Some artists in Tunisia distinguished between commercial graffiti, for which they would be willing to seek remuneration, and graffiti related to the revolution, for which they would not want to be paid. But in the revolutionary context, artistic activity was seen by the artists in both countries mostly as a tool for political expression and participation – a tool that could not retain its integrity if it needed to sell to survive.

On the matter of copyright, the graffiti artists were found to be disapproving of the idea of mainstream copyright protection of their images. Collaboration, borrowing, rebuilding and recycling were seen as an essential part of their creative process. Sharing of other artists' work for political purposes, or to spread a message, was welcomed by the artists. At the same time, building on each other's work was said to be a common practice. But copying without attribution was informally (yet strongly) sanctioned within the community, with copycats losing their artistic standing and respect. Social norms were found to play a strong role here. Shaming of copycats was found to be instrumental in this social construct, with reputation the key value. Accordingly, artists were concerned to maintain their right of attribution. This was in fact the only right that the majority of artists were determined to maintain in relation to revolutionary graffiti. For their part, the majority of the surveyed art consumers stated that they thought graffiti should be protected by copyright (but that, at the same time (as we saw above), graffiti art should be made freely available).

Based on these findings from the research, and approaching the findings from an A2K orientation, I sought to identify a copyright regime best suited to the priorities of both the revolutionary graffiti artists and the consumers of this art, cognisant also of the possibilities offered by increasingly widespread use of, and access to, online digital platforms.

As outlined in the article, the most suitable way forward would appear to be that offered by online posting of graffiti images under an alternative copyright licensing regime such as CC licensing. Contrary to mainstream copyright protection, CC licensing of online copies of graffiti images would preserve the graffiti's dynamic and flexible nature, suit the spirit of sharing, and protect the attribution rights of artists. The ephemeral nature and central political as well as social role of graffiti in artistic expression in Egypt and Tunisia make the CC licensing approach to copyright a better tool than conventional all-rights-reserved copyright to promote production and enjoyment of graffiti as a quasi-public good.

REFERENCES

Abaza, M. (2012, 27 May). The Buraqs of "Tahrir". *Jadaliyya*. Retrieved from http://www.jadaliyya.com/pages/index/5725/the-buraqs-of-tahrir

Abaza, M. (2013, 7 October). Mourning, narratives and interactions with the martyrs through Cairo's graffiti. *E-International Relations*. Retrieved from http://www.e-ir.info/2013/10/07/mourning-narratives-and-interactions-with-the-martyrs-through-cairos-graffiti

Abdel Samei, M.F. (2013, 29 November). The (anti-) protest law: No more public space in Egypt? *Open Democracy*. Retrieved from https://www.opendemocracy.net/arab-awakening/marwa-fikry-abdel-samei/anti-protest-law-no-more-public-space-in-egypt

Al-Akhbar. (n.d.). Graffiti: Walls of the people. Retrieved from http://english.al-akhbar.com/node/2948

Alexander, A., & Aouragh, M. (2014). Egypt's unfinished revolution: The role of the media revisited. *International Journal of Communication, 8*, 890-915.

Al-Khouly, M. (2011, 10 November). Egypt's new rulers declare war on graffiti. *Al-Akhbar*. Retrieved from http://english.al-akhbar.com/node/1330

AmosWEB. (n.d.). Quasi-public good. Retrieved from http://www.amosweb.com/cgi-bin/awb_nav.pl?s=gls&c=dsp&k=quasi-public+good

Apelian, C. (2015). *Under an overpass: Street art, graffiti, and observations from Tunisia November 2013*. Bay House Publications.

Arab Republic of Egypt. (2002). Law No. 82 of 2002 on the Protection of Intellectual Property Rights.

Art Radar. (2010, 21 January). What is street art? Vandalism, graffiti or public art – part I. Retrieved from http://artradarjournal.com/2010/01/21/what-is-street-art-vandalism-graffiti-or-public-art-part-i

Awad, B. (2013). Background paper on Tunisian Copyright Provisions Law 94-36 of 1994 on Literacy and Artistic Property. Cairo: Unpublished manuscript.

Biel, E. (2011, 27 October). Revolution graffiti: Reclaiming public space, reclaiming freedom in the new Egypt. *The Yale Globalist*. Retrieved from http://tyglobalist.org/in-the-magazine/online-exclusive/revolution-graffiti-reclaiming-public-space-reclaiming-freedom-in-the-new-egypt

Bonadio, E. (2014, 10 August). Graffiti copyright battles pitch artists against advertisers. *The Conversation*. Retrieved from http://theconversation.com/graffiti-copyright-battles-pitch-artists-against-advertisers-30291

Campbell, F. (2008). *Good graffiti, bad graffiti? A new approach to an old problem*. ENCAMS Research Report. Wigan, UK: Environmental Campaigns Ltd.

Creative Commons. (n.d.1). About Creative Commons. Retrieved from http://creativecommons.org/about

Creative Commons. (n.d.2). Attribution 4.0 international license. Retrieved from https://creativecommons.org/licenses/by/4.0/legalcode

Davies, J.M. (2012). Art crimes?: Theoretical perspectives on copyright protection for illegally-created graffiti art. *Maine Law Review*, *65*(1), 28-55.

Elansary, H. (2014, 3 September). Discourse, revolutionary street art: Complicating the discourse. *Ahram Online*. Retrieved from http://english.ahram.org.eg/NewsContent/5/35/109860/Arts--Culture/Stage--Street/Revolutionary-Street-Art-Complicating-the-Discours.aspx

El-Issawi, F. (2012, 10 July). *Tunisian media in transition*. Carnegie Endowment for International Peace. Retrieved from http://carnegieendowment.org/2012/07/10/tunisian-media-in-transition

eL Seed (2014). *Lost walls: Graffiti road trip through Tunisia*. Berlin: From Here to Fame Publishing.

Essalmawi, H. (2014). Principal Attorney and Intellectual Property Rights Officer at Bibliotheca Alexandrina. Interview on the status of Creative Commons in Egypt. Interviewed by Nagla Rizk [telephone interview] 4 March 2014.

Ferrell, J. (1995). Urban graffiti: Crime, control, and resistance. *Youth & Society, 27*, 73-92.

Fruit Pastiche. (2011, 16 February). The curious case of graffiti: Intellectual property rights. Retrieved from https://fruitpastiche.wordpress.com/2011/02/16/the-curious-case-of-graffiti-intellectual-property-rights/

Gonzalez, D. (2007, 4 June). Walls of art for everyone, but made by not just anyone. *The New York Times*. Retrieved from: http://www.

nytimes.com/2007/06/04/nyregion/04citywide.html?pagewanted=all&_r=0

Gröndahl, M. (2013). *Revolution graffiti: Street art of the new Egypt*. Cairo: The American University in Cairo Press.

Gulhane, J. (2013, 6 November). Rights group condemns proposed graffiti law. *Daily News Egypt*. Retreived from: http://www.dailynewsegypt.com/2013/11/06/rights-group-condemns-proposed-graffiti-law/

Howell, P. (2011, 12 May). Selling the writing on the wall: Does copyright protect the work of graffiti artists? Law, Technology and Arts Blog. Retrieved from https://wjlta.wordpress.com/2011/05/12/selling-the-writing-on-the-wall-does-copyright-protect-the-work-of-graffiti-artists/

Hyde, L. (1983). *The gift: Imagination and the erotic life of property*. New York: Vintage.

Incorporated Council of Law Reporting for England and Wales (ICLR) (2013, 6 March). Banksy under the hammer: Graffiti and the law. ICLR Blog. Retrieved from http://www.iclr.co.uk/banksy-under-the-hammer-graffiti-and-the-law

Karl, D., & Hamdy, B. (2014). *Walls of freedom: Street art of the Egyptian revolution*. Berlin: From Here to Fame Publishing.

Khatib, L. (2012, August). The people want... street art and power in the new Arab world. In K. Gregos, & E. Sorokina (Eds.), *Newtopia: The state of human rights*. Retrieved from http://fsi.stanford.edu/publications/the_people_want_street_art_and_power_in_the_new_arab_world/

Khatib, L. (2013). Street art and the Egyptian revolution. In IEMed (Ed.) *Mediterranean yearbook 2013* (pp. 299-301). Barcelona: European Institute of the Mediterranean (IEMed).

Kimvall, J. (2007, 28 September). Graffiti in the public realms. In H. Nilsson (Ed.), *Placing art in the public realm* (pp. 99-122). Stockholm: Södertörn University, in collaboration with Konstfack.

Lau, L. (2012-2013). The murals of Mohammad Mahmoud Street: Reclaiming narratives of living history for the Egyptian people. *Journal of the CAS Writing Program, 5*.

Lerman, C. (2013). Protecting artistic vandalism: Graffiti and copyright law. *NYU Journal of Intellectual Property and Entertainment Law, 2*, 295-338.

Lessig, L. (2004). *Free culture: How big media uses technology and the law to lock down culture and control creativity*. New York: The Penguin Press.

Lessig, L. (2008). *Remix: Making art and commerce thrive in the hybrid economy*. London: Bloomsbury.

Lethem, J. (2007, February). *The ecstasy of influence: A plagiarism*. Harper's, 59-71.

Madden, I.B. (2006). *Tattooed walls*. Jackson, MI: University Press of Mississippi.

Maslamani, M. (2013). *Ghirafiti Al-Thawrah Al-Misriyah [Graffiti of the Egyptian revolution]*. Doha: Arab Center for Research and Policy Studies.

Miladi, N. (2011). Tunisia: A media led revolution? *Media Development, 58*, 8-12.

Mock, G. (2013, 18 September). The Egyptian revolution, as told through graffiti. *Duke Today*. Retrieved from http://today.duke.edu/2013/09/egyptgraffiti

Morayef, S. (2014, 21 February). Ode to Alexandria – where it all began. Suzee in the City blog. Retrieved from https://suzeeinthecity.wordpress.com/2014/02/21/ode-to-alexandria-where-it-all-began

Nagy, A. (2011, 21 June). Yah'ya Al-Fann Al-Za'el [Long live the ephemeral art]. Qadita. Retrieved from http://www.qadita.net/featured/يحيا-الفنّ-الزائل-أحمد-ناجي/

Pollack, B. (2014, 10 July). Hieroglyphics that won't be silenced: Ganzeer takes protest art beyond Egypt. *The New York Times*. Retrieved from http://www.nytimes.com/2014/07/13/arts/design/ganzeer-takes-protest-art-beyond-egypt.html?_r=1

Ratta, D.D. (2011, 29 June). 3rd Creative Commons Arab regional meeting and concert. Retrieved from http://creativecommons.org/tag/tunis

Republic of Tunisia. (1994). Law No. 94 36 of 24 February 1994 on Literary and Artistic Property.

Republic of Tunisia. (2009). Law No. 2009-33 of 23 June 2009 Amending and Supplementing Law No. 94 36 of 24 February 1994 on Literary and Artistic Property.

OPEN INNOVATION AND KNOWLEDGE APPROPRIATION IN AFRICAN MICRO AND SMALL ENTERPRISES (MSEs)

Jeremy de Beer
Full Professor, Faculty of Law, University of Ottawa

Chris Armstrong
Visiting Fellow, LINK Centre, University of the Witwatersrand (Wits), Johannesburg

ABSTRACT
This article seeks enhanced understanding of the dynamics of open innovation and knowledge appropriation in African settings. More specifically, the authors focus on innovation and appropriation dynamics in African micro and small enterprises (MSEs), which are key engines of productivity on the continent. The authors begin by providing an expansion of an emergent conceptual framework for understanding intersections between innovation, openness and knowledge appropriation in African small-enterprise settings. Then, based on this framework, they review evidence generated by five recent case studies looking at knowledge development, sharing and appropriation among groups of small-scale African innovators. The innovators considered in the five studies were found to favour inclusive, collaborative approaches to development of their innovations; to rely on socially-grounded information networks when deploying and sharing their innovations; and to appropriate their innovative knowledge via informal (and, to a lesser extent, semi-formal) appropriation tools.

KEYWORDS
open innovation, collaborative dynamics, knowledge appropriation, access to knowledge (A2K), intellectual property (IP), micro and small enterprises (MSEs), informal sector, Africa

ACKNOWLEDGEMENTS
The authors gratefully acknowledge funding to support this research from the International Development Research Centre (IDRC), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the Social Sciences and Humanities Research Council of Canada (SSHRC). The authors thank Lucienne Abrahams, Sacha Wunch-Vincent, Erika Kraemer-Mbula, the anonymous peer reviewer, and members of the Open African Innovation Research (Open AIR) network, www.openair.org.za, for helping us improve our analysis with specific comments and/or general discussions of these issues.

INTRODUCTION
The complex relationship between appropriation and innovation is being questioned across numerous disciplines. Scholars in law, economics, management, political science, development studies and other fields of study are investigating whether the appropriation of knowledge, especially via formal intellectual property (IP) rights, leads to more or less innovation. Some suggest the ability to appropriate knowledge facilitates innovation, while others suggest that appropriation frustrates innovation, especially in the context of sequential or cumulative innovation. Such differences of opinion are not merely academic. These issues are at the core of national and international policy debates involving governments, industry and civil society.

Global trade negotiations in the early 1990s culminated in the legal codification – through the World Trade Organisation's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) – of logic, critics explain, presupposing that more IP protection will drive more innovation (Drahos & Braithwaite, 2002). In response to the ratcheting up of IP protection, however, a counter-movement of scholars and activists coalesced around the theme of access to knowledge, "A2K" for short, (De Beer & Bannerman, 2013; Kapczynski, 2008; Krikorian & Kapczynski, 2010).

A common concern motivating the A2K movement was not that IP rights are inherently problematic, but rather that often access to knowledge is as important, or more important, than appropriation of knowledge, to the processes that drive innovation. While many individual firms might profit from greater proprietary control over knowledge, if one takes a macro-economic perspective one can convincingly argue that more wealth will be generated, and distributed more equitably, through "open" approaches to knowledge governance. The free and open source software (FOSS) movement, which emerged in the 1980s, provided a key practical illustration of the virtues of an open approach to knowledge management. Creators and innovators across a wide range of sectors – from green technology development to film production to mobile phone application design, and much else in between – are now adopting open approaches to their knowledge. And just as the practical landscape of approaches to knowledge appropriation continues to evolve, so too does the conceptual terrain. Expressions such as "peer production", the "knowledge commons", "open development" and "open innovation" all have wide currency.

In the African context, it is particularly important, in both policy and practical terms, to understand how openness and appropriation affect innovation in micro- and small-enterprise (MSE) settings. Typically operating informally, African MSEs generate a significant proportion of the economic productivity on the continent. Accordingly, it is our view that a better understanding of the dynamics of innovation, openness, and knowledge management as practised by these small enterprises is critical to equipping policymakers with the evidence they need in order to craft policy tools that foster

sustainable socio-economic development on the continent. In this article, we take some of the current conceptual understandings of innovation, openness and knowledge appropriation and bring them to bear on findings from two recent research projects with an African MSE focus.

We set out our analysis knowing that the two research projects from which we secondarily source data and findings are pioneering endeavours in a largely unexplored empirical domain. (We are not aware of any other research initiatives on the continent that have focused on innovation and knowledge appropriation in MSE contexts.) Thus we do not overstate the conclusiveness of our analysis. There is still much work to be done, both empirically and conceptually, in this research area. Also, we do not imply with our analysis that the African continent is homogeneous in respect of the innovation practices of MSEs. The research findings discussed in this article cannot necessarily be generalised beyond the settings described. That is the nature of the case study methodology, which is especially well-suited to addressing "how" and "why" questions exploring new conceptual territory around contemporary events and behaviours beyond a researcher's control (Yin, 2009, pp. 8-14). These findings, therefore, offer new insights to develop and explain emerging concepts that are at least potentially relevant to other, similar settings on the continent, wherever they may be found.

The next section of this article expands upon an emerging conceptual framework for approaching innovation, openness and knowledge appropriation in African MSEs. We then provide a secondary account of findings from the two research endeavours we are aware of that have produced data relevant to this conceptual framework: the recent case studies of the Open African Innovation Research (Open AIR) network, and the recent work of the World Intellectual Property Organisation (WIPO) Development Agenda project on IP and the Informal Economy (Open AIR, n.d.; WIPO, 2011). [1] We then analyse the findings through the lenses of our conceptual framework, before offering conclusions and a proposed future research direction.

CONCEPTUAL FRAMEWORK

OPEN INNOVATION

Some of the origins of the conceptual linkage between openness and innovation are quite far removed from the African MSE settings that are the focus of this article. US business management scholar Chesbrough coined the term "open innovation" a dozen years ago, with respect to the changing research and development (R&D) practices of large and successful IT firms (Chesbrough, 2003a, 2003b). Chesbrough sought to explain how, for instance, the IT company Cisco could keep pace, in terms of innovation, with its rival Lucent without investing nearly as much as Lucent in internal R&D. Among his findings was that Cisco tended to acquire the technology it needed "from the outside, usually by partnering or investing in promising start-ups (some, ironically, founded by ex-Lucent veterans)" (2003b, p. 2). He characterised this approach to innovation as "open", as compared to a "closed" approach reliant on internal R&D. In the "open innovation model", Chesbrough writes, "the boundary between the company and its surrounding environment is porous […], enabling innovations to move more easily between the two" (2003b, p. 4). The open innovation company, according to Chesbrough "commercializes both its own ideas as well as innovations from other firms and seeks ways to bring its in-house ideas to market by deploying pathways outside its current businesses" (2003b, p. 4).

Today, more than a decade after Chesbrough's formulation, the fusion of notions of openness with notions of innovation is commonplace, and these fusions are made in relation to innovation in multiple contexts, including contexts far removed from the developed-world, large-firm activities that were his focus. To take but one example, in its recently published Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024), the African Union states in section 3.3 on "Innovation and Entrepreneurship" that "[a] multi-disciplinary and multi-sectoral approach to Collaborative Open Innovation and Entrepreneurship is essential to achieving the Knowledge Economy and sustainable socio-economic development across Africa" (AU, 2014).

The AU's reference to "collaborative open innovation" is not necessarily an endorsement of Chesbrough's insights. A recent article by West, Salter, Vanhaverbeke and Chesbrough (2014, p. 808) makes clear that Chesbrough's conception is "an (unabashedly) firm-centric theory of innovation". The AU's focus, however, is more on macro-economic policy frameworks than management strategy. This focus is aligned with other innovation scholars more interested in individual, consumer and societal welfare. Von Hippel and Baldwin use the term "open collaborative innovation" to describe non-proprietary innovation that is freely accessible to anyone (Von Hippel, 2005; Baldwin & Von Hippel, 2011). The legal academic Benkler (2006) uses the term "commons-based peer production" to explain how innovation happens without the proprietary incentives that drove the hierarchical industrial models of the past.

Conventional approaches to knowledge appropriation have emphasised formal IP rights as necessary to control knowledge in order for innovation to occur. The approach of the closed-innovation firm was "[w]e should control our intellectual property (IP) so that our competitors don't profit from our ideas", while the open-innovation firm decided "[w]e should profit from others' use of our IP, and we should buy others' IP whenever it advances our own business model" (Chesbrough 2003b, p. 5). Arguing for a broader approach to strategic knowledge sharing, Hall (2010) has recently pointed out that "[t]here are limits to IP as a tool for organizing open innovation", and there are many examples of open innovation "involving the free exchange of ideas and improvements" (2010, p. 4). Hall cites, as examples, the free exchange of knowledge that was central to development of the Bessemer steel process, to development of the steam-powered pumping engine for

1 Author De Beer is a co-founder and director of the Open AIR network, and he co-authored the conceptual paper for the WIPO Development Agenda project on IP and the Informal Economy (De Beer et al., 2013). Author Armstrong is a collaborator in the Open AIR network's South Africa team.

mining in Cornwall, and to development of silk-weaving in Lyons. Hall also points out that "[e]ven today the Web 2.0 sector is characterized by a relative lack of attention to IP issues and a great deal of effort devoted to interoperability" (Hall, 2010, p. 4). As will be seen below in the section on recent research findings, this "lack of attention to IP issues" as cited by Hall as a feature of the high-tech Web 2.0 world is also present in innovative informal or semi-formal African MSE settings.

In the firm-centric paradigm, "open innovation" means the *firm* is open to innovation in collaboration with outsiders. In the systems-wide paradigm, "open and collaborative innovation" means the *innovation* is open for use without proprietary restrictions. For the AU and other policymaking bodies seeking to support innovation on the continent, the different connotations of what are very similar terms present a potentially hidden conceptual danger. In the firm-centric model, strong appropriation (via IP rights, for example) helps to facilitate open innovation. But in a system-wide model, maximalist appropriation may hinder innovation, in part by inhibiting access to knowledge with increased transaction costs or inappropriate indicators of desirable outcomes. The confusion and contradictions among researchers about the relationship between appropriation and "open" innovation presents a serious impediment to development of effective marketplace framework and innovation policies (De Beer, 2015).

The common theme across firm-centric and systems-wide models of "open" innovation is that innovation happens when knowledge is exchanged throughout knowledge networks (De Beer, 2015). An emphasis on networks, and on prioritisation of exchange over exclusion, provides a conceptual bridge between notions of open innovation and the growing body of literature on the concept of networked "open development".

The volume *Open Development: Networked Innovations in International Development* (Smith & Reilly, 2013) provides chapters from all corners of the globe looking at how various gradations of openness in networked knowledge-management settings contribute to realising socio-economic development outcomes. Many of the conceptions in this path-breaking volume are useful for interrogating African MSE innovation. Here, we take work on open development in two new directions.

First, the nuances of open innovation and appropriation are for the most part not explicitly confronted in the existing open development literature. While there is mention of efforts by Australia's Cambia institute, via an initiative called the Initiative for Open Innovation, to support pooling of patent information for developing-country innovators (Masum et al., 2013, p. 121), in this present article we seek to squarely consider how IP tools facilitate or frustrate such initiatives.

Second, the settings examined in this article do not entirely align with most of the networked open models covered in the open development literature, much of which focuses on information and communication technologies (ICTs) such as the Internet and mobile telephony. In contrast, the innovation cases discussed in this article are not primarily ICT-enabled. In this way, we take seriously the statement in the Open Development volume's conceptual framing chapter (Reilly & Smith, 2013) that "while open models rest on technology, they are more properly social systems with information-networked structures and activities" (Reilly & Smith, 2013, p. 30, italics in original). We agree that it is the foundational "social" elements, rather than technological elements, that are the true drivers of information networking for innovative purposes. And, as is posited in the next prong of our conceptual framework, the social dynamics of innovation are thought to be particularly crucial in African MSE settings.

INNOVATION IN AFRICAN SMALL-ENTERPRISE SETTINGS

A 2011 World Bank report (Yoshino, 2011) on industrial clustering of MSEs in sub-Saharan Africa outlines the "dualistic structure" of Africa's private sector, as follows:

> […] a large number of micro and small enterprises, mostly indigenous domestic enterprises operating in an informal setting, coexist with a small number of large enterprises, often foreign-owned or former state-owned enterprises. (Yoshino, 2011, p. 11)

The World Bank's characterisation of the private sector on the African continent, as driven to a substantial extent by small-scale informal enterprises, is supported by figures from the International Labour Organisation (ILO). The ILO in 2013 estimated that informal enterprises were contributing 50% of gross value added (GVA) in sub-Saharan Africa (ILO, 2013a, p. 3).

According to 2014 estimates for selected countries, informal employment accounted for 33% of non-agricultural employment in South Africa, 44% in Namibia, 76% in Tanzania, 82% in Mali, and 66% on average across the sub-Saharan African countries studied (Vanek et al., 2014).

There is some debate as to how the informal sector, and informal enterprises, should be defined. The main point of contention is whether emphasis should be placed on an enterprise's registration (within a relevant legal or administrative framework) or on the nature of its production (how the enterprise is organised and performs its activities). The ILO has adopted a definition that blends both elements – registration status and mode of production – and indicates that "enterprises of informal employers" are defined as enterprises that correspond to "one or more" of three criteria: (1) "small size of the enterprise in terms of employment"; (2) "non-registration of the enterprise"; and (3) "non-registration of its employees" (ILO, 2013a, p. 19). Thus, according to the ILO definition, an enterprise that is

registered can still be regarded as informal, due to its small size and/or lack of registration of employees.

The ILO, World Bank and other large role-players seeking to promote sustainable enterprise development in developing countries are typically fulsome in their praise of the dynamism of informal enterprises. For example, the ILO states that the "[t]he informal sector is important not just as a source of employment but also for the production of goods and services" (ILO, 2013a, p. 3). And the World Bank, in the foreword to its *World Development Report 2013*: Jobs, states that "the jobs with the greatest development payoffs [...] are not only found in the formal sector; depending on the country context, informal jobs can also be transformational" (World Bank, 2012, p. xiii).

But at the same time, many influential organisations see the developing world's huge informal sectors as, to some extent, a problem to be solved. In its 2013 report *Transitioning from the Informal to the Formal Economy,* the ILO states that there exists a "global consensus that inclusive development is not possible unless rights and opportunities are extended to workers in the informal economy", and that "[t]he persistence of a large informal economy is incompatible with substantial progress in achieving decent work and undermines the ability of enterprises to become more productive" (ILO, 2013b, p. 5). Similarly, the World Bank views informality as a stage that African enterprises need to evolve out of, in order to realise their "untapped potential" (Lin, 2011, p. xiii). In the words of the foreword to a 2011 World Bank report on African MSEs:

> In every major commercial city, concentrations of micro and small enterprises are engaged in a range of manufacturing activities – from metalwork to carpentry and furniture making, from garments to food making. Those enterprises constitute the lion's share of manufacturers in the region. They are also potential sources of employment, skill development, and therefore poverty reduction. (Lin, 2011, p. xiii)

The goal, according to this World Bank report (Yoshino, 2011), is for African MSEs to make a "successful transformation" from "survivalist" informal MSEs to formal enterprises (2011, p. 108). Thus, for entities such as the World Bank and the ILO, Africa's huge MSE informal sector is both a valuable source of economic productivity and, at the same time, a problematic sector that must be transitioned into formality.

Our stance in this article is different. We share the concern that participants in Africa's informal sector are highly vulnerable to exploitation, impoverishment, and numerous other negative outcomes. However, we are of the view that an emphasis on formalisation as the sole viable way forward for these enterprises is not realistic, nor necessarily desirable. There is a clearly plausible scenario for Africa's future in which informality is not supressed but celebrated (Elahi & De Beer, 2013). We agree with Sparks and Barnett (2010) that "the debate about formal/informal dualism needs to end. Governments need to unequivocally recognize and admit the importance of the informal sector and find ways to encourage its growth" (2010, p. 5). We are also cognisant of the fact that, in the absence of strong labour laws and protections, *formalised* enterprises can in fact be tools of extreme exploitation.

In April 2015, *The Economist* published an article entitled "Africa's innovation revolution" in which it spoke of "[a] continent that has long accepted technological hand-me-downs from the West" now "increasingly innovating for itself" (The Economist, 2015). The article went on to say that

> [i]nnovation in Africa is helped by a peculiar confluence of economic and political circumstances. Regulation is generally light thanks to weak governance; engineers can try things out that are either prohibited or prohibitively bureaucratic elsewhere. It is also buoyed by the paucity of traditional infrastructure, whether roads or landlines, meaning that new technologies or business models face few established competitors. (*The Economis*t, 2015)

The Economist's focus in its article was on large firms, not small enterprises. But there is evidence to suggest that the African "innovation revolution" is also occurring at the level of informal MSEs. To analyse innovative activity in Africa's informal small-enterprise settings, we follow the guidance of Szirmai, Naude and Goedhuys (2011) to move beyond a "narrow strictly technological" approach to innovation that focuses on "product and process innovations" (2011, p. 5). We adopt the broader approach that takes into account not only new products and processes but also "new sources of supply", "exploitation of new markets", and "development of new ways to organize business" (Szirmai et al., 2011, p. 5).

As Szirmai et al. (2011) and numerous others point out, developing-world innovation is often "incremental" rather than "radical." Szirmai et al. (2011) emphasise the well-accepted idea that "innovation does not only refer to the first introduction of novelty by a first mover, but also to the spread of the innovation to other actors in the economy" (2011, pp. 5-6). Another important distinction is among innovations "new to the world", innovations "new to the domestic market", and innovations "new to the firm". New-to-the-world innovations are "primarily found in the advanced economies" and are "based on research and development at the frontiers of global knowledge", while in the developing world, "innovations will tend to be new to the market or new to the firm" – and "some kinds of innovation that are new to small firms in developing countries may coexist with stagnant economies and increasing technology gaps relative to the international frontier" (Szirmai et al., 2011, p. 6).

Another prominent feature of developing-world innovation is its communal, collaborative element, as highlighted in the De Beer et al. (2014) volume on the "collaborative dynamics" of innovation and IP in Africa, and as characterised by Kraemer-Mbula and Wamae (2010, p. 12) as innovation often driven "by knowledge gained through learning by

doing, collaboration and information networks". The aforementioned 2011 World Bank study of dynamics among clusters of African MSEs points to "the significant role of informal social networks that increase the flow of information among indigenous firms, reduce search costs, build trust relationships, and reduce transaction costs" (Yoshino, 2011, p. 27). This emphasis on the dynamism of knowledge networking in developing-world settings also connects to the aforementioned open development conceptual framework provided by Reilly and Smith (2013).

Also helpful in understanding the dynamics of African small-enterprise innovation activity is the work of Drahos and Frankel, whose 2012 volume Indigenous People's Innovation, while focused on examples from Australia and New Zealand, provides insights that are instructive to understanding innovation in African small-enterprise settings (many of which are impacted by indigenous knowledge). Drahos and Frankel (2012) put forward an "information theoretic perspective" on innovation, which "locates innovation in collective processes of generating information to reduce uncertainty", whereby "[a] society may choose to invest its resources into information that expresses itself more in services and processes than in technological artefacts" (2012, p. 21). Drahos and Frankel argue that

> [t]he innovation output of indigenous societies is best understood at the level of systems maintenance, where the systems being maintained are interlocking ecological systems and sub-systems. [...] To maintain the health of a river is also to contribute to the maintenance of flora and fauna that depend on the river. In a cycle of innovation dependence, one technique or set of techniques acts as part of a set of complex conditions that help to promote other forms of innovation. (Drahos & Frankel, 2012, p. 22)

Drahos and Frankel further say that in indigenous societies, "[r]esources are devoted to innovation in systems maintenance, rather than to the generation of technological artefacts" (2012, p. 23).

KNOWLEDGE APPROPRIATION BY AFRICAN MSEs

The final conceptual tool we need to outline, before turning to recent research findings, is a framework for understanding approaches to knowledge appropriation by innovative African MSEs. For this framing we rely on the conceptual work done under the auspices of the aforementioned WIPO Development Agenda project on IP and the Informal Economy (WIPO, 2011). (This is also the project that generated three of the case studies discussed below in the "Recent research findings" section.) The WIPO Committee on Development and Intellectual Property (CDIP) established the IP and the Informal Economy project in 2011 in order to implement the call, in WIPO Development Agenda Recommendation 34, for "a study on constraints to intellectual property protection in the informal economy, including the tangible costs and benefits of intellectual property protection [...]" (WIPO, 2007).

The conceptual working paper for the project (De Beer et al., 2013) builds upon the scarce literature in this field, distinguishing among three ways to appropriate knowledge, as follows:

- *Formal*: "[l]egally anchored, formal mechanisms of intellectual property appropriation", e.g., IPRs such as patents, trademarks, industrial designs and copyrights.
- *Semi-formal:* "[i]ndirect means of appropriation with a lesser degree of legal formality", e.g., secrecy, publishing, non-competition clauses, non-disclosure agreements and contracts.
- *Informal:* "[i]ndirect and informal", e.g., lead-time, complexity (of design/technology), after-sales and other services, customer loyalty but also family/community mechanisms, in tandem with community sanctions/ostracism for copying/imitation (De Beer et al., 2013, pp. 31-32).

The WIPO IP and the Informal Economy project concept paper also sets out two key questions that need to be asked in relation to the forms of appropriation present in an innovation context, as follows: (1) "To what extent do these appropriation schemes foster innovation and the diffusion of knowledge?" and (2) "To what extent does the absence of appropriation harm the scalability, diffusion and impact of innovation?" (De Beer et al., 2013, p. 32).

We will now provide an outline of research findings, relevant to our expanded conceptual framework, generated by the aforementioned Open AIR network and WIPO Development Agenda project on IP and the Informal Economy.

RECENT RESEARCH FINDINGS

The only recent case study research initiatives we are aware of with a specific focus on innovation and knowledge appropriation in African small-enterprise settings are the work of the Open AIR network and of the WIPO Development Agenda project on IP and the Informal Economy. From these two projects, there are five case studies, summarised below in the Table, which offer insights relevant to the conceptual framework we have just outlined: two of the studies by Open AIR, and all three of the studies from the WIPO Development Agenda project.

TABLE1: CASE STUDIES OF INNOVATION AND KNOWLEDGE APPROPRATION IN AFRICAN MSE SETTINGS

Study focus	Location(s)	Research method(s)	Project (publication year)
Informal-sector auto parts fabricators	Kampala, Uganda	Informal consultations and interviews	Open AIR (2014)
Traditional medicine practitioners	Bushbuckridge, South Africa	Participant observation and interviews	Open AIR (2014)
Traditional medicine practitioners	Ghana	Interviews and focus groups	WIPO Development Agenda (2013)
Informal-sector metalworkers	Nairobi, Kenya	A qualitative survey and interviews	WIPO Development Agenda (2013)
Informal-sector manufacturers of cosmetics and household cleaning products	Gauteng and Eastern Cape Provinces, South Africa	Interviews	WIPO Development Agenda (2013)

THE OPEN AIR STUDIES

The Open AIR network, which at the time of this article's publication has a multi-disciplinary team of researchers across 14 African countries, conducted a series of case studies in 2011-13 that looked at IP dynamics in a variety of innovation contexts.[2] Two of the Open AIR studies, in particular, generated findings relevant to our focus in this article on innovation, openness and knowledge appropriation in African small-enterprise settings:

- a study of innovation exchanges between informal-sector and formal-sector auto parts makers, and within a network of informal-sector artisans, in the Ugandan capital Kampala; and
- a study of knowledge-sharing among traditional healers in the Bushbuckridge region of South Africa.

UGANDAN AUTO PARTS FABRICATORS

This Kampala-based case study (Kawooya, 2014) found that informal-sector automotive artisans with no formal training were working with Makerere University engineering staff and students on development of an electric car prototype. While Makerere academics and students designed the car, called the Kiira EV, informal-sector artisans were called upon to fabricate some of its parts. The study found a two-way innovation transfer between the informal- and formal-sector actors, via a workshop, Gatsby Garage, managed in part by the university. The electric car prototype was successful, with the project receiving wide publicity, including a ride in the prototype by Ugandan President Yoweri Museveni (The Guardian, 2011).

This research revealed that while informal artisans were required to sign non-disclosure agreements (NDAs) compelling them not to share the Kiira EV designs with outsiders, there was a high degree of idea- and design-sharing within the formal-informal collective that fabricated parts for the car (Kawooya, 2014). According to study researcher Kawooya: "the role of IP protection issues was found to be minimal in the actions and thinking of the informal artisans. IP only became an issue on occasions when formal-sector entities raised IP matters in the course of sharing their innovations with informal-sector entities […]" (Kawooya, 2014, pp. 65-66). It was found that while the formal-sector parties sought to semi-formally appropriate their knowledge via the NDAs, the informal-sector parties were largely unconcerned with semi-formal appropriation (let alone formal appropriation), because the appropriation methods they were accustomed to were informal.

Among the informal-sector artisans, there was a high degree of sharing of innovative knowledge, often via apprenticeships provided by older artisans to younger artisans – with the apprenticeships typically established on the basis of family and friendship connections. The informal-sector workers also engaged in a great degree of informal networking in order to, inter alia, source materials and gain access to necessary machinery. According to Kawooya, "[w]ith the exception of one artisan, the participants found the notion of owning ideas, innovations or inventions antithetical to the workings of the informal sector, where collaboration and sharing is the norm rather than the exception" (Kawooya, 2014, p. 72). Kawooya also found that "[n]one of the informal-sector participants was aware of IP laws that could protect their innovations" and that "they remained unconcerned about IP even after I provided a brief explanation" (Kawooya, 2014, p. 72).

SOUTH AFRICAN TRADITIONAL HEALERS

This study (Cocchiaro et al., 2014) examined the knowledge management practices of a network of traditional healers, the Kukula Traditional Health Practitioners' Association, in South Africa's Bushbuckridge region. In 2009, roughly 80 healers came together to create a traditional knowledge commons, or "TK commons", that documents and pools their innovations. The commons is governed by a bio-cultural community protocol (BCP), which provides rules for members' use of the knowledge as well as guidelines for access and benefit-sharing agreements with outsiders wanting access to the knowledge. Before pooling their innovations, the healers' knowledge tended to be passed down within particular families or ethnic groups. Via the commons, the knowledge was now being shared more horizontally, across family and ethnic lines, "largely based on the trust relationship between healers regardless of their ethnic affiliations or levels of experience (Cocchiaro et al., 2014, p. 160). However, certain knowledge that according to custom must always be kept

2 Findings from the Open AIR studies have been published by UCT Press in a volume, edited by De Beer, Armstrong, Oguamanam and Schonwetter, entitled *Innovation and Intellectual Property: Collaborative Dynamics in Africa* (De Beer et al., 2014).

secret by its practitioners was not shared, and "members of the group do not share all knowledge because of concerns that it could lead to the weakening of their individual healing specialisations" (Cocchiaro et al., 2014, p. 160).

The research found that through the commons, the healers were not only more easily able to share their innovations, but also to practice better conservation (e.g., preventing over-harvesting of medicinal plants), to negotiate with government authorities for controlled access to nature reserve areas containing plant materials, and even to negotiate an access and benefit-sharing arrangement with a private-sector cosmetics and bedding company, Godding and Godding, which sought access to some of the Kukula healers' innovations for possible development of commercial products (Cocchiaro et al., 2014).

THE WIPO DEVELOPMENT AGENDA PROJECT STUDIES

This WIPO Development Agenda project on IP and the Informal Economy produced three case studies of knowledge management in African informal, MSE innovation settings. The studies looked at the work of:

- Ghanaian traditional medicine practitioners (TMPs);
- informal-sector metalworkers in the Kenyan capital Nairobi; and
- South African informal-sector manufacturers of home and personal care products.

GHANAIAN TRADITIONAL MEDICINE PRACTITIONERS (TMPs)

This Ghanaian study (Essegbey et al., 2013) surveyed more than 100 TMPs and found that the majority of respondents operated in a largely informal fashion. The TMPs were found to be engaging in innovative behaviour in relation to the composition of their products, the products' packaging, production processes, product marketing, and delivery of services to clients (Essegbey et al., 2013). The most commonly used form of knowledge appropriation among the TMPs was secrecy, which TMPs said they used in order to prevent others from commercialising their innovations. But at the same time, more than 90% of the practitioners said they supported the notion of "open transfer or exchange of innovation/innovative ideas", which led the study authors to conclude that "respondents might not have thought through carefully the implication of open access" (Essegbey et al., 2013, p. 41).

KENYAN METALWORKERS

The study of informal metalworking in Nairobi (Bull et al., 2013) surveyed metalworkers in three contexts: a cluster of artisans making commodity products such as pots and pans, targeted at low-income consumers; a cluster of artisans making higher-value items for middle- and upper-income consumers; and artisans working in isolation (not in a cluster). Innovations were found in all three contexts, but differences were found in the approaches to knowledge management (Bull et al., 2013).

Participants in the cluster making low-value items did not seek to engage in appropriation of innovations, relying mostly on trust relationships and sharing of resources within the collective in their efforts to respond to customer demand. In this cluster, there was also some "willingness to take advantage of being first to market and of exclusive relationships with customers" (Bull et al., 2013, p. 2). Participants in the cluster making higher-value items "put more energy into maintaining any advantage" via, for example, using secrecy to protect knowledge of certain production processes (Bull et al., 2013, p. 2). The artisans operating in isolation were found to be somewhat interested in formalised protection of IP, such as trademarks and utility patents, but they made little use of formalised IP because they found the appropriation process too difficult (Bull et al., 2013).

SOUTH AFRICAN HOME AND PERSONAL CARE PRODUCT MANUFACTURERS

This study (Kraemer-Mbula & Tau, 2013) examined the work of informal manufacturers of home and personal care products in South Africa's Gauteng and Eastern Cape Provinces. The study found significant evidence of incremental product innovations, and a lesser degree of evidence of incremental process innovations. In terms of knowledge appropriation, it was found that "[s]elective sharing of information, secrecy, division of duties and management of customer relationships" were the most-used forms. Use of formal mechanisms such as patents and trademarks was scarce (Kraemer-Mbula & Tau, 2013, pp. 2-3).

In respect of the aforementioned mechanism of "selective sharing of information", which 72% of the respondents regarded as an important tool of knowledge management, the authors found that this mode of exchange "does not involve monetary transactions, but appears to be guided by a code of honor and trust amongst producers, and a sense of responsibility to their community" (Kraemer-Mbula & Tau, 2013, p. 49). The authors also found that the informal manufacturers voiced an appreciation for open transfer of ideas, but at the same time the respondents were "often unaware of mechanisms of knowledge appropriation that would suit their needs" (Kraemer-Mbula & Tau, 2013, p. 3).

ANALYSIS

Drawing on the findings just outlined from the five studies of innovative African MSEs, we now present an analysis grouped according to the three themes of the conceptual framework provided above:

- open innovation;
- innovation in African small-enterprise settings; and
- knowledge appropriation by African MSEs.

OPENNESS FOR INNOVATION

Above we presented a hybrid firm-centric and systems-wide view of open innovation as innovation that is driven by networks and focused on knowledge exchange rather than exclusion, and we also proposed that in the case of African MSE settings, the networking function should be seen primarily in terms of socially-enabled, not technologically-determined, dynamics. Four of the five studies outlined above provide findings that appear to support these conceptions of openness-oriented innovation.

The Ugandan informal-sector workers were found to be extremely active exchangers of knowledge, both among themselves and in their interactions with formal-sector players. The Kukula healers of South Africa were also engaged in exchange of information within their collective of more than 300 members. There was also evidence of active knowledge exchange among the clustered informal-sector metalworkers in Kenya and the informal-sector personal and home care product manufacturers in South Africa. There was also strong evidence in these five innovation settings of the knowledge exchange that was socially grounded, i.e., driven by communal/family networks and other networks of trust. Only in the case of the Ghanaian TMPs was the knowledge exchange dynamic not clearly present – though even in this case, more than 90% of the practitioners answered in the affirmative when asked whether they agreed with idea of "open transfer or exchange" of innovations.

But it must also be pointed out that in each instance where the dynamic of knowledge exchange was present, there were limits, i.e., there were elements of "exclusion" at play. For the Ugandan auto parts makers, South African healers, Kenyan clustered metalworkers and South African home and personal care product makers, because knowledge exchange was primarily engaged in on the basis of trust networks, there were implicitly outsiders not being engaged with for the purposes of information exchange. This does not dilute the finding that these innovators had a strong orientation toward openness; it merely reveals that their ethic of openness was not absolute.

INNOVATION IN AFRICAN MSEs

The propositions cited above, from the work of Kraemer-Mbula and Wamae (2010), that innovation in developing-world settings tends to be characterised by "learning by doing", "collaboration", and "information networks", also appear to be borne out by findings from the studies. The Ugandan informal-sector auto parts makers were found to rely to a great extent on learning by doing (and informal apprenticeships allowing apprentices identified via family and kinship links to learn by doing) in order to develop and pass on their innovations. And the Kukula healers of South Africa were found to be displaying a high degree of information networking, through regular face-to-face meetings and gradual expansion of the size of their healers' network (starting with 80 healers and growing to a network of more than 300 members by the time of the Open AIR research in 2011-12).

As well, many of the innovative behaviours identified across the five case studies fit with conceptions of developing-world innovation cited above from the work of Szirmai et al. (2011) and Drahos and Frankel (2012). The innovations identified were typically incremental (as opposed to breakthrough), and their identification required the researchers to take a broad perspective on innovation of the sort proposed by Szirmai et al. (2011) – a perspective that takes account of innovation in "sources of supply", "exploitation of new markets", and finding "new ways to organize business" (2011, p. 5). For example, in respect of innovation in source of supply, the metalworkers in both the Ugandan and Kenyan studies were found to display significant ingenuity in sourcing the necessary materials (Kawooya, 2014; Bull et al., 2013).

And some of the innovative behaviours of the Kukula healers in South Africa would appear to be examples of what Drahos and Frankel (2012) describe, in the passage quoted above, as "systems maintenance" behaviours, whereby "the systems being maintained are interlocking ecological systems and sub-systems" (2012, p. 22). In their efforts, via their TK commons, to better manage stewardship of the medicinal plants on which their traditional medical provision depends, the Kukula healers are engaged in maintenance of the health of both plant and human participants in the local ecosystem.

KNOWLEDGE APPROPRIATION BY INNOVATIVE AFRICAN MSEs

When the findings of the five studies are viewed in terms of the three modes of appropriation cited above from De Beer et al. (2013) – formal, semi-formal and informal appropriation – it is the second and third categories, semi-formal and informal, that are most apparent.

A key semi-formal appropriation technique identified in all five studies was secrecy. Another semi-formal mechanism – contracting – was present in the work of Kukula healers, who had signed an access and benefit-sharing agreement with a cosmetics and bedding company, Godding and Godding, seeking access for potential commercialisation purposes to some of the Kukula TK. The Ugandan informal auto parts makers also engaged in a form of contracting, by signing non-disclosure agreements (contracts promising secrecy) with Makerere University in order to be able to participate in production of the Makerere electric car prototype. It is important to note that in each of these two contracting cases, the contracts arose due to the small-enterprise innovators needing to interact with larger, and formalised, entities. (In the case of the Ugandan auto parts makers, it would seem that the informal workers were exploited to some extent in their relationship with the Makerere researchers – via a power asymmetry generated by different attitudes towards knowledge appropriation mechanisms.).

Examples of informal appropriation techniques were numerous in the studies, including instances of all of the examples provided by the conceptual paper of the WIPO Development Agenda project on IP and the Informal Economy: lead-time, complexity, related services, customer loyalty, family/community mechanisms, and peer/community sanction (De Beer et al., 2013).

In response to the first of the two core appropriation questions posed in WIPO Development Agenda project conceptual paper – "To what extent do these appropriation schemes foster innovation and the diffusion of knowledge?" (De Beer et al., 2013, p. 32) – it seems clear that the informal, and to a lesser extent semi-formal, appropriation mechanisms identified were succeeding in fostering innovation and knowledge diffusion in the African small-enterprise settings studied.

In answer to the second appropriation question from – "To what extent does the absence of appropriation harm the scalability, diffusion and impact of innovation?" (De Beer et al., 2013, p. 32) – there was evidence that the Kukula healers in South Africa had achieved significant scale in the absence of formal appropriation, growing from an initial 80 members in 2009 to 300 healers in 2012, and with a membership drawn from across a wide geographical area in northeast South Africa, including parts of two provinces (Limpopo and Mpumalanga). And two of the other sets of actors studied – the Kenyan metalworkers and the South African personal and home care product makers – also exhibited elements of scale in the absence of formal appropriation, via collaborating within geographically defined clusters. (We saw earlier that the World Bank (Yoshino, 2011) has identified clustering as a key dimension of MSE activity in sub-Saharan Africa.).

CONCLUSIONS AND FUTURE RESEARCH

Case study data and research findings are not necessarily generalisable. This is particularly true in the highly diverse and dynamic context of Africa's informal MSEs. But case studies such as those reviewed in this article are among the best methods to explore the boundaries and nuances of emerging conceptual frameworks.

Relying on secondary data, which was collected through two recent research projects, we have shed new light on the intersections amongst openness, innovation, appropriation and development. Such insights have the potential to help researchers and policymakers further refine their understanding of these topics. The findings presented in this article support the conclusions that:

- African MSEs can and do orient themselves towards openness and inclusion, rather than exclusion, in their innovation practices;
- MSEs' knowledge networking for innovation can and does rely to great extent on offline, socially constructed linkages; and
- MSEs can and do favour informal appropriation approaches, and to a lesser extent semi-formal appropriation practices, for their innovative knowledge.

Nevertheless, the MSE innovation context on the African continent remains an under-researched area, with many gaps to be filled. Among these apparent gaps is research into the scalability of MSE innovation models. This is a gap that the Open AIR network will seek to address with its next phase of research, beginning in 2016. A central question will, in our view, need to be: to what degree does scaling-up of MSEs' innovation models require increased formality, in an operational sense and/or in relation to knowledge appropriation?

The complexity of the appropriation question, in particular, is hinted at by the authors of the Kenyan case study discussed above. In their recommendations based on the research, Bull et al. (2013) point out that, in respect of the Kenyan informal-sector metalworking clusters they studied,

> it is critical to recognize that the values prized by those working in clusters – relationships based on trust and the sharing of resources – are vital to the functioning of the larger society. These values are sometimes seen as being at odds with protecting an individual's intellectual property. (Bull et al., 2013, p. 2)

Bull et al. (2013) go on to argue that it "is not necessarily true" that protecting IP goes against the trust and sharing values central to cluster dynamics, and, accordingly, policymakers need to "seek innovative solutions" capable of nurturing both "valuable cultural norms and individual rights" (2013, p. 2).

We agree with Bull et al. (2013) that it is not necessarily a given that formalised appropriation (i.e., IP protection) is irreconcilable with innovation-sharing. Yet it is our sense, in light of the research discussed above, that formal appropriation will in many cases *not* be fully compatible with collaborative innovation in African small-enterprise settings. Which brings us back to the question of what is to happen to appropriation dynamics when such enterprises seek to scale up. Does the scaling-up require more formalised approaches to appropriation? Or is it a case of the enterprises needing to ensure that, as they achieve greater scale, they continue to harness informal (and, in limited instances, semi-formal) appropriation modes in order to preserve the innovation dynamics core to the success of their enterprises? The answers to these pressing questions for future researchers will be extremely valuable to innovators, and policymakers, on the continent.

REFERENCES

African Union (AU). (2014). *Science, technology and innovation strategy for Africa 2024 (STISA-2024)*. Addis Ababa: African Union Commission.

Baldwin, C., & Von Hippel, E. (2011). Modeling a paradigm shift: From producer innovation to user and open collaborative innovation. *Organization Science, 22*(6), 1399-1417.

Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. London: Yale University Press.

Bull, C., Daniel, S., Kinyanjui, M. N., & Hazeltine, B. (2013). *Country study on innovation, intellectual property and the informal economy: The informal metalworking sector in Kenya*. WIPO Project on Intellectual Property (IP) and the Informal Economy (CDIP/8/3). Retrieved from http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=267443

Charmes, J. (2012). The informal economy worldwide: Trends and characteristics. *Margin: The Journal of Applied Economic Research, 6*(2), 103-132.

Chen, M. A. (2012). *The informal economy: Definitions, theories and polices*. WIEGO Working Paper No.1. Cambridge, MA: Women in Informal Employment: Globalizing and Organizing (WIEGO).

Chesbrough, H. W. (2003a). *Open innovation: The new imperative for creating and profiting from technology*. Boston: Harvard Business School Press.

Chesbrough, H. W. (2003b). The era of open innovation. *MIT Sloan Management Review, 44*(3), 35-41.

Chesbrough, H. W., Vanhaverbeke, W., & West, J. (Eds.). (2006). *Open innovation: Researching a new paradigm*. Oxford: Oxford University Press.

Cocchiaro, G., Lorenzen, J., Maister, B., & Rutert, B. (2014). Consideration of a legal "trust" model for the Kukula Healers' TK commons in South Africa. In J. De Beer, C. Armstrong, C. Oguamanam, & T. Schonwetter (Eds.), *Innovation and intellectual property: Collaborative dynamics in Africa* (pp. 151-170). Cape Town: UCT Press.

De Beer, J. (2015). *"Open" innovation policy frameworks: Intellectual property, competition, investment and other market governance issues*. Report prepared for Industry Canada. Ottawa.

De Beer, J., Armstrong, C., Oguamanam, C., & Schonwetter, T. (Eds.). (2014). *Innovation and intellectual property: Collaborative dynamics in Africa*. Cape Town: UCT Press.

De Beer, J., & Bannerman, S. (2013). Access to knowledge as a new paradigm for research on ICTs and intellectual property. In L. Elder, H. Emdon, R. Fuchs, & B. Petrazzini (Eds.), *Connecting ICTs to development: The IDRC experience*. London and Ottawa: Anthem Press and IDRC.

De Beer, J., Fu, K., & Wunsch-Vincent, S. (2013). *The informal economy, innovation and intellectual property – concepts, metrics and policy considerations*. Economic Research Working Paper No. 10, WIPO Economics and Statistics Series. Retrieved from http://www.wipo.int/export/sites/www/econ_stat/en/economics/pdf/wp10.pdf

De Beer, J., Sowa, I., & Holman, K. (2014). Frameworks for analysing African innovation: Entrepreneurship, the informal economy and intellectual property. In J. De Beer, C. Armstrong, C. Oguamanam, & T. Schonwetter (Eds.), *Innovation and intellectual property: Collaborative dynamics in Africa* (pp. 32-58). Cape Town: UCT Press.

Drahos, P., & Braithwaite, J. (2002), *Information feudalism: Who owns the knowledge economy?* London: Earthscan.

Drahos, P., & Frankel, S. (2012). Indigenous peoples' innovation and intellectual property: The issues. In P. Drahos & S. Frankel (Eds.), *Indigenous peoples' innovation: Intellectual property pathways to development* (pp. 1-28). Canberra: Australian National University E Press.

Elahi, S., & De Beer, J. (2013). *Knowledge and innovation in Africa: Scenarios for the future* (with D. Kawooya, C. Oguamanam, & N. Rizk). Cape Town: Open AIR. Retrieved from http://www.openair.org.za/images/Knowledge-Innovation-Africa-Scenarios-for-Future.pdf

Essegbey, G. O., Awuni, S., Essegbey, I. T., Akuffobea, M., & Micah, B. (2013). *Country study on innovation, intellectual property and the informal economy: Traditional herbal medicine in Ghana*. WIPO Project on Intellectual Property (IP) and the Informal Economy (CDIP/8/3). Retrieved from http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=267526

Hall, B. H. (2010). Open innovation and intellectual property rights – the two-edged sword. *Economy, Culture and History: Japan Spotlight Bimonthly*.

International Labour Organisation (ILO). (2009). *The informal economy in Africa: Promoting transition to formality: Challenges and strategies*. Geneva: ILO.

ILO. (2012). *Statistical update on employment in the informal economy*. Geneva: ILO.

ILO. (2013a). *Measuring informality: A statistical manual on the informal sector and informal employment*. Geneva: ILO.

ILO. (2013b). *Transitioning from the informal to the formal economy*. Report V(1) for the International Labour Conference,103rd Session, 2014, Geneva. Geneva: ILO.

Kapczynski, A. (2008). The access to knowledge mobilization and the new politics of intellectual property. *Yale Law Journal, 117*, 804-885.

Kawooya, D. (2014). Informal-formal sector interactions in automotive engineering, Kampala. In J. De Beer, C. Armstrong, C. Oguamanam, & T. Schonwetter (Eds.), (2014), *Innovation and intellectual property: Collaborative dynamics in Africa* (pp. 59-76). Cape Town: UCT Press.

Kraemer-Mbula, E., & Tau, V. (2013). *Country study on innovation, intellectual property and the informal economy: Informal manufacturers of home and personal care products in South Africa*. WIPO Project on Intellectual Property (IP) and the Informal Economy (CDIP/8/3). Retrieved from http://www.wipo.int/meetings/fr/doc_details.jsp?doc_id=268545

Kraemer-Mbula, E., & Wamae, W. (2010). *Innovation and the development agenda*. Paris and Ottawa: Organisation for Economic Co-operation and Development (OECD) and International Development Research Centre (IDRC).

Krikorian, G., & Kapczynski, A. (Eds.). (2010). *Access to knowledge in the age of intellectual property*. New York: Zone Books.

Lin, J. Y. (2011). Foreword. In Y. Yoshino (Ed.), *Industrial clusters and micro and small enterprises in Africa: From survival to growth* (pp. xiii-xiv). Washington, DC: World Bank.

Masum, H., Schroeder, K., Khan, M., & Daar, A. S. (2013). Open source biotechnology platforms for global health and development: Two case studies. In M. L. Smith, & K. M .A. Reilly (Eds.), *Open development: Networked innovations in international development* (pp. 113-128). Cambridge, MA: MIT Press.

New Partnership for Africa's Development (NEPAD). (2014). *African innovation outlook II*. Pretoria: NEPAD.

Neuwirth, R. (2011). *Stealth of nations: The global rise of the informal economy*. New York: Anchor Books.

Organisation for Economic Co-operation and Development (OECD). (2010). *SMEs, entrepreneurship and innovation*. OECD Studies on SMEs and Entrepreneurship. Paris: OECD.

OECD. (2011). Intellectual asset management, innovation and SMEs. In *Intellectual assets and innovation: The SME dimension*. Paris: OECD.

Open African Innovation Research (Open AIR). (n.d.). Website. Retrieved from http://www.openair.org.za

Reilly, K. M. A., & Smith, M. L. (2013). The emergence of open development in a network society. In M. L. Smith, & K. M. A. Reilly (Eds.), *Open development: Networked innovations in international development* (pp. 15-50). Cambridge, MA: MIT Press.

Smith, M. L., & Reilly, K. M. A. (Eds.) (2013). *Open development: Networked innovations in international development*. Cambridge, MA: MIT Press.

Sparks, D. L., & Barnett, S. T. (2010). The informal sector in Sub-Saharan Africa: Out of the shadows to foster sustainable employment and equity? *International Business and Economics Research Journal, 9*(5), 1-12.

Szirmai, A., Naude, W., & Goedhuys, M. (Eds.) (2011). *Entrepreneurship, innovation and economic development*. UNU-Wider Studies in Development Economics. Oxford: Oxford University Press.

The Economist. (2015, 25 April). The pioneering continent: Innovation is increasingly local. Retrieved from http://www.economist.com/news/middle-east-and-africa/21649516-innovation-increasingly-local-pioneering-continent

The Guardian. (2011, 10 November). Uganda's first electric car proves the potential of Africa's universities. Retrieved from http://www.theguardian.com/global-development/poverty-matters/2011/nov/10/uganda-electric-car-education

Vanek, J., Chen, M. A., Carré, F., Heintz, J., & Hussmanns, R. (2014). *Statistics on the informal economy: Definitions, regional estimates and challenges*. WIEGO Working Paper (Statistics) 2. Cambridge, MA: Women in Informal Employment: Globalizing and Organizing (WIEGO).

Von Hippel, E. (2005). *Democratizing innovation*. Cambridge, MA: MIT Press.

West, J., Salter, A., Vanhaverbeke, W., & Chesbrough, H. W. (2014), Open innovation: The next decade, *Research Policy, 43*(5), 805-811.

World Intellectual Property Organisation (WIPO). (2007). The 45 Adopted Recommendations under the WIPO Development Agenda.

WIPO. (2011). Intellectual property (IP) and the informal economy. Project proposal to WIPO Committee on Development and Intellectual Property (CDIP), Eighth Session, 18 November. Retrieved from http://www.wipo.int/edocs/mdocs/mdocs/en/cdip_8/cdip_8_3_rev.pdf

World Bank. (2012). *World development report 2013: Jobs*. Washington, DC: World Bank.

World Trade Organisation (WTO). (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.) Thousand Oaks, CA: Sage.

Yoshino, Y. (Ed.) (2011). *Industrial clusters and micro and small enterprises in Africa: From survival to growth*. Washington, DC: World Bank.

THEMATIC REPORTS

HUMAN CAPITAL BARRIERS TO TECHNOLOGICAL ABSORPTION AND INNOVATION BY ETHIOPIA'S MICRO AND SMALL ENTERPRISES (MSEs)

Wondwossen Belete
President, Society for Technology Studies, Addis Ababa

ABSTRACT

Ethiopia's private sector is dominated by micro and small enterprises (MSEs), many of them operating informally. Accordingly, a key challenge for the country's science, technology and innovation (STI) policymakers is finding ways to ensure that these small businesses absorb external technological innovations in order to enhance their performance and allow for follow-on innovations. This policy objective has an access to knowledge (A2K) dimension, because Ethiopia's STI policies and strategies stress the need for improved MSE access to public domain patent information as a means to improving technological absorption. However, research by the Ethiopian Intellectual Property Office (EIPO) has found that despite the efforts of the Ethiopian government to foster small-enterprise absorption of public domain technological information contained in patent documents, MSE take-up of such technology tends to be poor (Belete, 2013).

In this piece, the author, former EIPO Director of Intellectual Property Policy and Planning, argues that the government's emphasis needs to be on building human capital in MSEs, in order to improve their capacity to absorb patent information. This argument draws on literature linking technological absorption capacity to human capital levels, along with findings from an Ethiopian government survey of 3,000 MSEs (MUDC, 2013). The author recommends improved MSE collaboration with intermediary organisations such as the country's Technical and Vocational Education and Training (TVET) institutions and industry development institutes.

KEYWORDS

Ethiopia, micro and small enterprises (MSEs), innovation, patents, patent information, public domain, intellectual property (IP) rights, access to knowledge (A2K), technological absorption, absorptive capacity, human capital

INTRODUCTION

Building capacities through improved technology is a key to increasing the competitiveness of enterprises. Technology development can take place within enterprises, or it can be acquired from external sources through transfer of technology. Most new technologies are created in advanced countries, and technological change in the enterprises of developing countries occurs primarily through the international transfer of technology (Keller, 2004; Kim, 1997; UNCTAD, 2007). Foreign technology can be acquired by recipients in developing countries either formally or through informal transfer mechanisms. Foreign direct investment, foreign licensing, and turnkey projects are examples of formal mechanisms. Key informal mechanisms are human mobility and published information, i.e., information published via books, journals, trade literature, standards, and patent filings.

Patent information is present in every sphere of technical and scientific activity, from the simplest to the most complex solutions to technical problems (WIPO, 2005), and publication and take-up of information in patent documents is an important access to knowledge (A2K) dimension that is catered for in intellectual property (IP) rights legal regimes. When a patent for an invention is granted, the invention is disclosed in such a manner that its essence and mode of exploitation will be brought to the knowledge of anyone who wishes to know. This is done in terms of examples, where appropriate, and with reference to the drawings, if any. In some countries, the description is required to disclose the best mode known to the applicant for carrying out the invention (WIPO, 2004). Many national and regional patent offices provide free online access to their own patent collections as well as to selected patent documents from other offices. Thus, searches of patent literature can be conducted free of charge by anyone using such patent databases.

Each year, over 2 million new patent documents are published in several languages in over 100 countries. In total, there are more than 80 million patent documents globally (PRH, 2014). The protection conferred by a patent is limited in time (generally 20 years), and thus most of these 80 million patents are no longer in force and a vast number of inventions can be used freely (EC & EPO, 2007). Furthermore, IP rights are territorial and their validity is limited to the national or regional jurisdiction for which they have been granted. In the case of Ethiopia, very few patent applications are filed and granted in the country. Thus, most of the technology disclosed internationally in patent documents is public domain information in Ethiopia, with no legal requirement to seek anyone's consent to use the technology within the country.

Among the duties of the Ethiopian Intellectual Property Office (EIPO) are dissemination of technological information contained in patent documents, and encouragement of utilisation of this information (FDRE, 2003). The EIPO disseminates the technological information to different user groups, including educational institutes, research organisations, and the manufacturing sector – which is primarily composed of micro and small enterprises (MSEs). The EIPO also provides information and advice relating to online patent searches.

According to the 2014 Urban Employment Unemployment Survey by Ethiopia's Central Statistical Agency (CSA), 33.7% of the urban population in the country was employed by the informal sector, and among these informal-sector employees, only 21% had attended secondary-level education or higher. Among these informal-sector participants,

35% were in one of the following categories: technicians and associated professionals; skilled agricultural, forestry and fishery workers; craft and related trades workers; and plant and machine operators and assemblers. The CSA Survey also found that 31.5% of the informal-sector workers were engaged in manufacturing, construction, mining and quarrying (CSA, 2014). Many of these informal-sector employees were engaged in the MSE sector, with a Ministry of Urban Development and Construction (MUDC) survey finding that around 12% of MSE employees in the capital Addis Ababa, and close to 40% outside the capital, were engaged in informal-sector activities (MUDC, 2013).

Via adoption of the five-year Growth and Transformation Plan (GTP) of 2010 and the National Science, Technology and Innovation (STI) Policy of 2012, the Ethiopian government has prioritised patent information as a means for transfer of foreign technologies to Ethiopian enterprises. The GTP called for technological information contained in 5 million patent documents to be used for technology transfer and adaptation during the plan's five-year period. The STI Policy identified increased use of technological information contained in patent documents as one of the strategies for technology transfer (MoFED, 2010; FDRE, 2012).

There is a strong state focus on development of MSEs through, inter alia, government adoption of targeted strategies for the sector – such as the MSE Strategy of 2011 (FDRE, 2011) – and government establishment of the Federal MSE Development Agency (FMSEDA) and Regional MSE Development Agencies (RMSEDAs).The MSE Strategy of 2011 defines a *micro* enterprise as an enterprise with not more than five employees and total assets not exceeding ETB100,000 (equivalent to approximately USD4,900 at the time of writing in mid-2015). A *small* enterprise is defined as having six to 30 employees and total assets valued at between ETB100,001 and ETB1.5 million (between USD4,900 and USD73,500) (FDRE, 2011).

The Ethiopian Intellectual Property Office (EIPO) has made persistent efforts to promote the dissemination and use of public domain patent information by MSEs. However, EIPO research has found that such information remains an underutilised source of technology for MSEs (Belete, 2013). Thus MSEs are not benefitting from this freely available source of technology for improvement of their products and enhancement of their innovative performance. In this article, I argue that one of the causes of this gap between policy intent and practical reality is the poor technological absorption capacity of MSEs in Ethiopia. I base my argument on literature showing the importance of human capital to technological absorption, and on findings from the aforementioned MUDC survey of Ethiopian MSEs (MUDC, 2013).

THEORISING TECHNOLOGICAL ABSORPTION, HUMAN CAPITAL AND INNOVATION

Cohen and Levinthal (1990) define the absorptive capacity of a firm as the firm's ability to recognise the value of new external information, to assimilate it, and to apply it to commercial ends – with the ability to exploit externally generated information as a critical component of innovative capability. They also suggest that absorptive capacity is largely a function of the prior related knowledge of a firm's personnel, which may include basic skills and knowledge of the most recent scientific or technological developments in a given field.

Subsequent studies have found that assimilation and absorption of technology from external sources depend on technological effort and require skills, effort and investment by the receiving enterprise (Kim, 1997; Lall, 1992; UNCTAD, 2007). Narula (2003) argues that qualified human resources are essential to monitoring the evolution of external technological knowledge, evaluating its relevance, and integrating technologies into productive activities. Thus a firm's absorptive capacities depend on those of its personnel, e.g., on the personnel's levels of education, experience and training. The more education and training an employee receives, the higher his/her individual ability to assimilate and use new knowledge.

In analysing absorptive capacity at firm level, Giuliani and Bell (2004) claim that human capital is important to a firm's capacity to access external sources of knowledge. Similarly, Arnold and Bell (2001) stress the importance of human capital, stating that the ability of companies to learn depends on their internal capabilities, often represented by the number and level of scientifically and technologically qualified staff. Employees with high levels of education are the main contributors to knowhow transfer, because they are in a better position to recognise and value new external technological information. Absorptive capacity can also be developed through the accumulation of experience, and this kind of knowledge established through learning by doing can to some extent be measured by the work histories of employees (Giuliani & Bell, 2004; Vinding, 2006). Zahra and George (2002) consider absorptive capacity as a set of organisational routines and processes through which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organisational capability.

Vanhaverbeke and Van de Vrande (2007) link the notions of open innovation and absorptive capacity, noting that both deal with in-sourcing externally developed technology and engaging in technological collaboration with innovation partners. They claim that insights from open innovation practices in companies provide several clues as to how to enrich the concept of absorptive capacity and improve understanding of how management decisions can strengthen a firm's ability to learn from its external environment. Vanhaverbeke and Van de Vrande (2007) emphasise that developing and improving the absorptive capacity of innovating firms is at the heart of open innovation. As conceptualised by Chesbrough (2003), open innovation is the use of purposive inflows and outflows of knowledge in order to both accelerate internal innovation and, at the same time, expand the markets for external use of innovation. Chesbrough's (2003) conception of open innovation thus assumes that firms can and should use both external and internal ideas, and both external and internal paths to the market, as they look to advance their technologies.

ETHIOPIA'S POLICY AND INSTITUTIONAL SUPPORT FOR MSEs

The policy measures necessary for increasing the absorptive capability of domestic knowledge systems are addressed in a UN Conference on Trade and Development (UNCTAD) 2007 report on least developed countries (LDCs). According to the report, there is first a need for education and training, which increase the pool of relevant human skills. Second, there is a need for incentives to promote the development of technological learning and innovation routines within domestic firms. Third, there is a need for creation of a set of institutions that work to increase knowledge linkages among domestic firms, between domestic firms and foreign firms who have invested in LDCs, and between domestic firms and the rest of the world (UNCTAD, 2007).

In Ethiopia, a number of policy and institutional measures have been established that aim to enhance the growth and competitiveness of MSEs, whose significance has long been recognised. The Investment Proclamation of 1966 provided MSEs with tax relief, and access to land and buildings, public utilities, and other advisory and administrative facilities (IEG, 1966). Another early measure was establishment of the Handicrafts and Small Scale Industries Development Agency in 1977. In 1996, the government adopted its Licensing and Supervision of Micro Financing Institutions Proclamation (FDRE, 1996), principally aimed at enabling MSEs, through micro-finance institutions, to have access to credit facilities, counselling services and income-generating projects. This legislation also provided opportunities and security for informal-sector operators, through enhancing their legality and formalisation.

In 1997, the first federal MSE Strategy was adopted (FDRE, 1997), along with a set of regional strategies. The principal objectives of these MSE strategies were, inter alia, exploitation of local raw materials, creation of productive job opportunities, adoption of new and appropriate technologies, and enhanced development of MSEs, which were seen to have wide-ranging backward and forward linkages. (Backward linkages refer to an enterprise's creation of employment opportunities and markets for raw materials and intermediate inputs, while forward linkages refer to an enterprise's supply of products). In 1998, the aforementioned agencies, the FMSEDA and the RMSEDAs, were established as tools to drive Ethiopian MSE development. The government's Industrial Development Strategy of 2002 included focus on labour-intensive micro- and small-scale enterprises using agricultural products as inputs and having broad linkages with the rest of the economy (FDRE, 2002).

The aforementioned five-year GTP envisaged creation of an environment conducive to the strengthening of existing MSEs and emergence of new ones. Among the GTP targets was provision of capacity building support and training – aimed at imparting entrepreneurial, technical and vocational skills – to 3 million MSE operators. The GTP focused on enabling MSEs to engage in rapid technological transfer; to be present in all cities of the country; and to produce goods and services that were competitive (initially in the domestic market and then, gradually, in the international market). In support, the country's Technical and Vocational Education and Training (TVET) institutes are required to serve as skill and technology centers that capacitate MSEs through technical skill and entrepreneurship training, technology transfer and improvement, and business counselling (MoFED, 2010).

In 2011, the government adopted the revised MSE Strategy (the original Strategy having been adopted in 1997), aimed at enhancing the competitiveness of MSEs, ensuring continued rural development via sustainable growth of MSEs, and making the MSE sector a foundation for industrial development. The Strategy reinforced the call for TVET institutes to play a central role in MSE human resource development and in sourcing technology and technological information for MSEs (MoE, 2008; FDRE, 2011).

ETHIOPIAN MSEs' HUMAN CAPITAL

The MUDC surveyed 3,000 MSEs across 13 urban areas of Ethiopia in 2012, with the results published in 2013 (MUDC, 2013). The MUDC's objective for the survey, the first MSE survey conducted on such a large scale in Ethiopia, was to generate information on growth-oriented MSEs, i.e., on MSEs engaged in production of goods and services in the government's priority sectors, which include construction, agro-processing, and production of textiles, garments, leather and leather goods.

EDUCATION LEVELS

The MUDC survey found that, among the MSE owners/managers surveyed, 38% had high school as their highest level of education, and 33% had only primary school education. Very few MSEs – 7.9% in the capital Addis Ababa and 5.5% in other sample cities – had owners/managers who had attended TVET education. In enterprises engaged in activities such as metalworking, woodworking, construction, and textile and garment production, the majority of owners/managers were found to have attended high school. But in agro-processing, footwear and leather, and urban agriculture enterprises, the majority of owners/managers were found to have attended primary school. In terms of specific years of schooling among the personnel at surveyed MSEs, only 41% (41.6% in Addis Ababa, and 40.8% in the other sample cities) had attended 11 or more years of schooling, meaning that close to 60% of owners/managers had attended only 10 years or less of schooling (MUDC, 2013).

TECHNICAL TRAINING

Across all the MSEs surveyed, about 76% indicated that they had not received formal production skills training. Thus the majority of MSEs had weak relationships with TVET institutes and other training providers. The survey also found that those who had received training complained of the low quality of trainers at TVETs (MUDC, 2013).

EXPERIENCE

The survey found that only 32.1% of the MSE owners/managers had relatively adequate experience in their business areas before starting their enterprises – i.e., more than two years in the business area – while 12% of the owners/managers had only between one and two years of experience. The majority (54.1%) of owners/managers of the sampled MSEs had less than one year of experience in their business areas before starting their present enterprises. Regarding the age of MSEs, it was found that 48.9% of enterprises had only been in existence for one year or less, with another 28.5% of enterprises reporting an age of two to three years (MUDC, 2013).

The surveyed MSEs also reported facing numerous access barriers – e.g., in relation to financing, information, technology and markets – which undermined their innovation capabilities.

CONCLUSIONS

The MUDC survey results, when viewed in light of the aforementioned literature on links between human capital and technological absorption, and in light of the EIPO's findings on lack of Ethiopian MSE take-up of technical information contained in patent documents (Belete, 2013), suggest that the MSE sector's low level of human capital is one of the factors undermining the Ethiopian government's ambitions for technological absorption and innovation by these enterprises.

While the technical information contained in patent documents is readily available, only MSEs with significant levels of human capital can be expected to readily understand and apply such information. With, for example, fewer than 8% of the MSE owners/managers having received training from TVET institutions, and only 32.1% having two or more years of experience in their business areas, a human capital deficiency seems clearly to be present in relation to the demands of assimilation and exploitation of technological information contained in patent documents.

Steps need to be taken to ensure that Ethiopia's TVETs produce the human capital required by MSEs to increase their capacity for technological absorption and, in turn, to increase their levels of innovation and competitiveness. These institutes need to respond more appropriately to the MSE sector's various training needs.

TVET institutions also have a potentially crucial role to play in helping MSEs incorporate patent information into their production processes. TVETs should seek to serve as intermediaries, providing MSEs with technical help and advice in the transfer of knowledge. TVETs can serve as centres for technology transfer and capability-building, and provide support for increased productivity by MSEs through identification of, and provision of potential solutions to, MSEs' productivity gaps.

The building of MSE human capital necessary for innovative technological absorption can also be facilitated through provision of processed patent information for the MSEs to apply to their production processes. TVETs should offer MSEs value-added patent information, e.g., via preparation of patent maps, to guide MSEs in developing innovations within their production activities. Armed with processed patent information appropriate to their business sectors, MSEs would be better able to use the knowledge as the basis for incremental innovations.

The industry development institutes set up by the government in recent years also need to play a pivotal role in transferring knowledge embodied in patent documents to MSEs. There are such institutes in many different sub-sectors, including, for instance, the Textile Industry Development Institute and the Leather Industry Development Institute. Among the key activities of these institutes should be retrieval of sets of patent documents relevant to their specific sub-sectors, analysis of the documents, and extraction and provision of elements relevant to the needs of enterprises in their sub-sectors.

Thus, for the technological absorption capacities of MSEs to improve, it is imperative that the delivery to MSEs by intermediary bodies – the TVET institutions and industry development institutes – is greatly enhanced.

Finally, it is important to note that the interactions between MSEs, TVETs and industry development institutes occur within broader framework conditions and innovation infrastructure, including a range of policies and institutions. Improving MSE access to, and use of, patent information, and improving their innovation performance, thus needs to be viewed from a systems perspective. And policy measures aiming to improve the innovative performance of MSEs must be designed in the context of building a national innovation system.

REFERENCES

Arnold, E., & Bell, M. (2001). Some new ideas about research and development. In *Partnerships at the leading edge: A Danish vision for knowledge, research and development*. Report of the Commission on Development-Related Research, funded by DANIDA, Ministry of Foreign Affairs. Copenhagen.

Belete, W. (2013). *The making of Ethiopia's innovation system*. Discussion Paper Number 2. African Technology Policy Studies Network (ATPS)-Ethiopia Chapter. Addis Ababa.

Carter, A.P. (1989). Knowhow trading as economic exchange. *Research Policy*, *18*(3), 155-163.

Central Statistical Agency (CSA). (2014). *2014 urban employment unemployment survey statistical report*. Addis Ababa.

Chesbrough, H. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Boston, MA: Harvard Business School Press.

Cohen, W.M., & Levinthal, D.A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, *35*(1), 128-152.

European Commission (EC) & European Patent Office (EPO). (2007).*Why researchers should care about patents*. Retrieved from http://ec.europa.eu/invest-in-research/pdf/download_en/patents_for_researchers.pdf

Federal Democratic Republic of Ethiopia (FDRE). (1996). Licensing and Supervision of Micro Financing Institutions Proclamation No. 40/1996. Addis Ababa.

FDRE. (1997). *Micro and small enterprise development strategy*. Addis Ababa.

FDRE. (2002). *Industrial development strategy*. Addis Ababa (in Amharic).

FDRE. (2003). Ethiopian Intellectual Property Office Establishment Proclamation of 2003, Proc. No. 320/2003. Addis Ababa.

FDRE. (2011). *Micro and small enterprise development strategy: Provision framework and methods of implementation*. Addis Ababa.

FDRE. (2012). Science, Technology and Innovation (STI) Policy of Ethiopia. Addis Ababa.

Giuliani, E., & Bell, M. (2004).*When micro shapes the meso: Learning networks in a Chilean wine cluster*. SPRU Electronic Working Paper Series, Paper no. 115. Retrieved from https://www.sussex.ac.uk/webteam/gateway/file.php?name=sewp115.pdf&site=25

Imperial Ethiopian Government (IEG). (1966). Investment Proclamation 242/1966. Addis Ababa.

Keller, W. (2004). International technology diffusion. *Journal of Economic Literature*, *XLII*, 752-782.

Kim, L. (1997). *Imitation to innovation: The dynamics of Korea's technological learning*. Boston: Harvard Business School Press.

Lall, S. (1992). Technological capabilities and industrialization. *World Development*, *2*(2), 165-86.

Ministry of Education (MoE). (2008). *National technical and vocational education and training (TVET) strategy*. Addis Ababa.

Ministry of Finance and Economic Development (MoFED). (2010).*Growth and transformation plan (2010/11–2014/15): Vol. I: Main text*. Addis Ababa.

Ministry of Urban Development and Construction (MUDC). (2013). *Survey on micro and small enterprises (MSEs) in selected major cities of Ethiopia*. Addis Ababa. Retrieved from http://www.mwud.gov.et/c/document_library/get_file?uuid=28a0fa5f-8689-4828-9244-7187413fb248&groupId=10136

Narula, R. (2003). *Understanding absorptive capacities in an "innovation systems" context: Consequences for economic and employment growth*. DRUID Working Paper No 04-02. Danish Research Institute for Industrial Dynamics. Retrieved from http://www3.druid.dk/wp/20040002.pdf

PRH: Finnish Patent and Registration Office. (2014).Databases. Retrieved from http://www.prh.fi/en/patentit/tietokannat.html

UN Conference on Trade and Development (UNCTAD). (2007).*The least developed countries report 2007: Knowledge, technological learning and innovation for development*. Retrieved from http://unctad.org/en/Docs/ldc2007_en.pdf

Vanhaverbeke, W.C.M., & Van de Vrande, V. (2007).Connecting absorptive capacity and open innovation. In J. Fagerberg, D. Mowery, & B. Verspagen (Eds.), *Proceedings of the CAS workshop on innovation in firms, October 30-November 1, 2007*. Oslo: Centre for Advanced Study.

Vinding, A.L. (2006). Absorptive capacity and innovative performance: A human capital approach. *Economics of Innovation and New Technology*, *15*(4/5), 507-517.

World Intellectual Property Organisation (WIPO). (2004).*WIPO intellectual property handbook*. Retrieved from http://www.wipo.int/edocs/pubdocs/en/intproperty/489/wipo_pub_489.pdf

WIPO. (2005). *Exchanging value: Negotiating technology licensing agreements*. Retrieved from http://www.wipo.int/export/sites/www/sme/en/documents/pdf/technology_licensing.pdf

Zahra, S.A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review*, *27*(2), 185-203. Retrieved from http://frontiers.sauder.ubc.ca/Zahra_George_AMR_2002.pdf

STRATEGIC PATENTING OF PHARMACEUTICAL INVENTIONS AND THE PUBLIC'S RIGHT TO ACCESS MEDICINES: THE SOUTH AFRICAN CONTEXT

Vuyisile Hobololo[1]
PhD candidate, Oliver Schreiner School of Law, University of the Witwatersrand (Wits), Johannesburg; Visiting Researcher, Intellectual Property Unit, University of Cape Town; and Deputy Director: OTT Liaison, National Intellectual Property Management Office (NIPMO), Pretoria

ABSTRACT
Pharmaceutical firms' use of strategic patenting to influence the markets within which their patented inventions sit is legally questionable. Such patenting entails filing patents with the intention of blocking potential competitors from innovating and/or being granted patents within niche technology areas of interest to the patentee. Under this practice, patentees are potentially able to extend the breadth and duration of their monopoly power in the pharmaceutical market sub-sector within which that invention sits. Such practices take on a clear public interest element if they undermine affordable public access to medicines. This thematic report outlines forms of strategic patenting, analyses the degree to which the South African legal system provides remedies against such patenting, and proposes ways forward for South Africa to prevent such practices.

KEYWORDS
patents, pharmaceuticals, strategic patenting, public interest, access, compulsory licensing, competition, South Africa

INTRODUCTION: STRATEGIC PATENTING
Pharmaceutical companies use a wide range of strategic patenting approaches that are aimed at advancing their competitive positions in markets (Bader et al., 2012). Through these strategies, pharmaceutical companies use patents for purposes beyond protection of the technical subject matter of their inventions; they seek also to influence the business positions and behaviours of their competitors.

One of the foundational justifications – the incentive view – for how patents operate in relation to medicines is that companies engaged in pharmaceutical research and development will only be encouraged to continue developing new medicines if, in exchange for disclosure of their inventions, they are granted monopoly rights on a temporary basis (the current international standard is a 20-year duration) to enhance their ability to profit from the inventions they have spent time and resources developing.

From a public interest perspective, the incentive view is only credible if a patent serves the sole purpose of protecting the invention so that the patent holder, or his/her licensee or successor in title, can have an exclusive right to manufacture and commercialise the invented article, and nothing more. As Krishnan and Balachandran (2014) state, a "patent is for use and not for hoarding or exploitation" (2014, p. 175). The public interest is not being served when patents are used for more than just the protection of the specific subject matter of an invention. Potentially at stake is the public right of access to medicines, a key pillar of the global access to knowledge (A2K) movement seeking to ensure a fair, public interest-oriented balance between the rights of IP owners and the rights of users of IP-protected products.

A study by Sternitzke (2013) found clear evidence of a form of strategic patenting known as "fencing" in relation to PDE5 inhibitor drugs. According to Jackson (2007, p. 26),

> "[f]encing", or "surrounding", a competitor's core patents with a company's own patents for all conceivable improvements, is a method of forcing the competitor to enter into cross-licensing arrangements. […] This practice makes it difficult for a competitor to further expand on their original patents without infringing on patents held by the instigator of this tactic.

Also common in the pharmaceutical sector (Sternitzke, 2013, p. 549) is pre-emptive patenting, in which patents are filed to pre-empt competitors' behaviour, i.e., to prevent competitors from being granted exclusive rights in relation to certain markets and/or products. The evidence presented by Guellec, Martinez and Zuniga (2013) of pre-emptive patenting reveals the central role played by this strategy in the technology and market strategies of pharmaceutical companies. Another common practice is extension of the lifecycle of a drug patent by developing secondary patents (for minor changes to the drug) that serve to "evergreen" the original patent by increasing its term of protection (see Correa, 2011; Kapczynski et al., 2012; and *Novartis v Union of India (UOI) & Others*, 2013).

In the remainder of this article, I critically examine the legality, in the South African context, of using patents in a strategic manner to limit competition. I also suggest possible legal remedies that can be explored to address the adverse effects of such strategic patenting, e.g., in the event that public access to medicines is threatened by this practice.

SOUTH AFRICAN LAW
Article 28(1) of the World Trade Organisation (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) provides that a patent shall confer on its owner the exclusive right to prevent third parties not having the owner's consent from making, using, offering for sale, selling, or importing for these purposes that

1 The author writes in his capacity as PhD candidate, University of the Witwatersrand.

product (WTO, 1994). The corresponding provision in South African patent law, section 45(1) of the Patents Act, provides that

> [t]he effect of a patent shall be to grant to the patentee in the Republic, subject to the provisions of this Act, for the duration of the patent, the right to exclude other persons from making, using, exercising, disposing or offering to dispose of, or importing the invention, so that he or she shall have and enjoy the whole profit and advantage accruing by reason of the invention. (sect. 45(1), Patents Act of 1978)

The South African provision appears to be more liberal than its TRIPS equivalent. TRIPS simply lists the acts that third parties are excluded from, while the South African provision goes further, making reference to the patentee's entitlement to the "whole profit and advantage accruing by reason of the invention". Because of this wording, the provision can be afforded either a narrow or broad interpretation. A broad interpretation of "whole profit and advantage accruing by reason of the invention" could make strategic patenting permissible under section 45(1), i.e., if a court were to take a broad interpretation, the patentee could be permitted to use a patent to engage in any act he/she elected to in pursuit of "profit and advantage".

A narrow interpretation, however, of "whole profit and advantage accruing by reason of the invention" would be that the words apply only to the listed acts, i.e., to "making, using, exercising, disposing or offering to dispose of, or importing the invention […]". If a South African court were to adopt this narrow interpretation, strategic patenting practices would likely be ruled as falling outside the legal scope of the exclusive right provided to patentees.

I view the narrow interpretation as more plausible, because the broad interpretation appears to suggest that the exclusive right of the patentee is absolute and without limitations. In view of the fact that the South African Patents Act provides for significant public-interest limitations and exceptions permitted in terms of TRIPS – e.g., state walk-in rights (sections 4 and 78) and compulsory licensing (sections 55 and 56) – it is, in my view, inconceivable that the Act could, in section 45(1), provide for exclusive rights that would effectively threaten the public's right to access to medicines. The narrow interpretation establishes a balance between the private rights of the patentee and the public right of access; it protects the patent holder (against infringement of his/her patent rights by third parties) while ensuring that the exclusive rights of the patentee are exercised within clear, legally-defined boundaries (guarding against strategic patenting practices that threaten the public right of access to medicines).

PREVENTING STRATEGIC PATENTING

Based on a narrow interpretation of section 45(1) of the South African Patents Act, I see three possible legal remedies to be explored to ensure that strategic patenting practices do not adversely affect the right of the South African public to access medicines. These remedies are:

- a clear national position on strategic patenting, in both policy and law;
- implementation of compulsory licensing; and
- remedies for anti-competitive behaviour.

NATIONAL POSITION ON STRATEGIC PATENTING

The most relevant South African IP policy document at present is the Draft National Policy on Intellectual Property of 2013 (DTI, 2013). This Draft Policy is the South African government's effort to ensure that national IP laws not only meet international standards but are also in line with South Africa's needs as a developing country. The Draft Policy's Chapter 2, entitled "IP and Public Health", contains statements directly relevant to the focus of this article. The Chapter states that "IP protection regimes must not contradict public health policies and the two should be balanced", and that "South African legislation should allow strict rules to apply to patenting as competition principles may be undermined" (2013, p. 21). The essence of this argument is also echoed in the Draft Policy's Chapter 5 on "IP, Competition, Public Policy-Making, Compulsory Licensing and Technology Transfer". While neither chapter specifically addresses the issue of strategic patenting, they both emphasise the need for national patent law to safeguard the interests of the public and of patentees' competitors.

Assuming these parts of Chapter 2 and Chapter 5 remain unchanged in the eventual finalised National Policy, amendments should be made to the Patents Act to put the Act in line with the Policy. We have seen above that the current provisions in section 45(1) are potentially open to conflicting interpretations in respect of strategic patenting. It is therefore recommended that section 45(1) be amended so as to expressly provide that strategic patenting acts of the type discussed above are prohibited, i.e., that they fall outside the scope of rights granted to a patentee.

COMPULSORY LICENSING

Compulsory licensing is a mechanism by which a government limits the effect of a patent by granting a licence to a third party, without the consent of the patentee, so that the third party can work or exploit the invention on condition that the third party pays to the patentee a reasonable royalty (see Abbas, 2013, p. 245).

Both Article 5 of the Paris Convention on the Protection of Industrial Property and Article 30 of TRIPS provide for compulsory licensing as one of the possible exceptions to a patentee's exclusive rights, provided the implementation of the exception is "reasonable" (TRIPS, Art. 30) and takes into account the interests of both the patentee and

third parties, including the public. Wang (2014, p. 88) notes that compulsory licensing is a well-established IP legal instrument for facilitating affordable access, by breaking cartels and monopolies based on patent rights. Its most frequent use has been as a tool to secure public access to patented essential medicines. The South African Patents Act, in sections 55 and 56, provides for compulsory licensing in relation to two potential outcomes of strategic patenting: (1) non-working and non-licensing of a patent; or (2) existence of dependent patents.

NON-WORKING AND NON-LICENSING OF A PATENT

A compulsory licensing provision may be invoked when a patentee is found to be exhibiting behaviour deemed to be non-working, or inadequate working (without satisfactory reasons) of a patented invention on a commercial scale (in terms of section 56(2)(a) of the Patents Act).The legal precedent set in South Africa by the *Sanachem v British Technology Group plc* (1992) case regarding what it means to work a patent offers a relatively broad interpretation of "worked", as it not only considers local manufacturing of the patented articles but further includes importation as a means of working the patented invention. As patents may be worked not only when the patentee manufactures the patented invention but also through licensing, or assignment to the State or third parties, the non-working or abuse of patents may also be through the patentee's refusal to grant a licence to generics manufacturers. In the *Syntheta v Janssen Pharmaceutica & Another* (1998) case, it was held that the onus rests on the applicant for a compulsory licence to prove that the patentee has no satisfactory reason for not working (or licensing) the patent. The applicant therefore has to furnish the South African Commissioner of Patents with evidence of conducive conditions for working of the invention by the applicant under a compulsory licence.

EXISTENCE OF DEPENDENT PATENTS

Compulsory licensing can also be used, in terms of section 55 of the South African Patents Act, when there is evidence of dependency of other patents on a patentee's prior patent. In this regard, the prior patent is regarded as blocking the dependent patent, as the dependent patent may not be worked without infringing on the prior patent.This may oblige a prior patentee to grant a licence, or authorise use of his/her patent, in the working of the subsequent patent, or both parties to cross-license their patents to each other. To secure a compulsory licence, the holder of the dependent patent must prove that the proprietor of the prior patent is being uncooperative, i.e., the holder of the dependent patent must have unsuccessfully sought authorised access to the prior patent, on reasonable terms, from the prior patent's proprietor.

DIFFICULTIES WITH COMPULSORY LICENSING

Application for a compulsory licence must be done by a juristic person with technological capabilities to work the non-worked patent, and thus this is not a remedy that members of the general public can pursue. Another limitation is the burden of proof, which, outlined above, can be very challenging in relation to evidence of non-working of a patent. Firms' patenting strategies are not public documents, and therefore firms usually do not publicly disclose the reasoning that informs their approach. It is thus not surprising that on four occasions (all in the 1990s), the applicant's inadequate evidence was the reason cited by the Court of Commissioner of Patents for refusal of compulsory licensing applications.

REMEDIES FOR ANTI-COMPETITIVE BEHAVIOUR

Pre-emptive and blocking patenting strategies will often amount to anti-competitive behaviour, and thus qualify as prohibited acts (section 8) or abuse of dominance (sections 6 and 7) in terms of South Africa's Competition Act (RSA, 1998). A complainant lodging a complaint to the Competition Commission may allege a patentee's engagement in an exclusionary act (sect. 8(c)), or a patentee's refusal to give competitors access to an essential facility (sect. 8(b)), depending on the facts of the case at hand.

The advantage of using the competition regime is that, unlike patent law, it is available to the general public. In the *Hazel Tau & Others v GlaxoSmithKline and Boehringer Ingelheim* (2002) case before the Competition Commission, members of the general public were able to challenge the two multinational pharmaceutical firms on the grounds of alleged anti-competitive behavior or abuse of dominance, allegedly caused by excessive pricing of medicines and refusal to grant licences to generics manufacturers (able to produce the drugs at lower cost) on reasonable terms. Applicants who had no locus standi in the Court of the Commissioner of Patents, and so could not apply for a compulsory licence, were able to successfully seek and obtain relief through the competition law regime.

The outcome of the *Hazel Tau* case was that, after a detailed investigation, the Competition Commission found that GlaxoSmithKline and Boehringer Ingelheim abused their dominant positions in their respective anti-retroviral markets by engaging in prohibited anti-competitive acts (including denying a competitor access to an "essential facility", engaging in excessive pricing, and engaging in an exclusionary act). Thereafter, GlaxoSmithKline and Boehringer Ingelheim concluded separate settlement agreements with the complainants and the Competition Commission respectively, wherein they undertook to provide: voluntary licences to manufacturers of generic versions of the drugs protected by these companies' patents; importation of the drugs into South Africa; and export into other countries in sub-Saharan Africa.

CONCLUSIONS

Both the South African Patents Act and Competition Act offer possible remedies that could be used in cases of strategic patenting. The Patents Act offers remedies either through a narrow interpretation of its Section 45(1) or through use

of its compulsory licensing provisions in sections 55 and 56. But neither of these avenues is straightforward. It would appear that seeking remedy through the provisions of the Competition Act, against unfair competition and/or abuse of patent rights, would be more efficient and more sensitive to the public's rights. The outcome of the *Hazel Tau* case supports this view.

Regardless, the South African government should incorporate an explicit policy stand against strategic patenting in the final version of its National Policy on Intellectual Property and subsequent amendments to the Patents Act.

REFERENCES

Abbas, M. Z. (2013). Pros and cons of compulsory licensing: An analysis of arguments. *International Journal of Social Science and Humanity, 3*(3), 245-258.

Afrita (Pty) Ltd and Another v Carlton Paper of South Africa (Pty) Ltd, 1992 BP 331 (BP).

Bader, M. A., Gassmann, O., Ziegler, N., & Ruether, F. (2012). Getting the most out of your intellectual property – patent management along its life cycle. *Drug Discovery Today, 17*(7), 281-284.

Burrell, T. D. (1999). *Burrell's South African patent and design law* (3rd ed.). Durban: Butterworths.

Correa, C. M. (2007). Compulsory licensing: How to gain access to patented technology. In A. Krattiger (Ed.), *ipHandbook of best practices*. Retrieved from http://www.iphandbook.org/handbook/ch03/p10.

Correa, C. M. (2011). *Pharmaceutical innovation, incremental patenting and compulsory licensing*. South Centre Research Paper 41. Geneva: South Centre.

Delta G Scientific (Pty) Ltd v Janssen Pharmaceutica NV and Another, 1996 BP 455 (CP).

Department of Trade and Industry (DTI), (2013). Draft National Policy on Intellectual Property. Government of South Africa. Pretoria: *General Notice 918 of 2013*, 13 September.

Dolfsma, W. (2011). Patent strategizing. *Journal of Intellectual Capital, 12*(2), 168-178.

Guellec, D., Martinez, C., & Zuniga, P. (2013). Pre-emptive patenting: Securing market exclusion and freedom of operation. *Economics of Innovation and New Technology, 21*(1), 1-29.

Hazel Tau & Others v GlaxoSmithKline and Boehringer Ingelheim, Competition Commission Case No. 2002Sep226.

Jackson, P. J. (2007). The dangers of patents as weapons. LLM thesis. Canterbury, UK: University of Kent.

Kapczynski, A., Park, C., & Sampat, B. (2012). Polymorphs and prodrugs and salts (Oh My!): An empirical analysis of "secondary" pharmaceutical patents. *PLoS ONE, 7*(12).

Krishnan, R., & Balachandran, V. (2014).TRIPS Agreement and product patent – some issues. *International Journal of Advanced Research in Management and Social Sciences*, *3*(4), 175-183.

Novartis AG v Union of India (UOI) and Others; Natco Pharma Ltd. v UOI and Others; M/S Cancer Patients Aid Association v. UOI and Others, Civil Appeal No. 2706-2716 of 2013.

Paris Convention for the Protection of Industrial Property of 1883, as last amended 28 September 1979.

Republic of South Africa (RSA). (1978). Patents Act of 57 of 1978, as last amended 15 January 2013.

Republic of South Africa (RSA). (1998). Competition Act 89 of 1998, as last amended 3 June 2013.

Sanachem (Pty) Ltd v British Technology Group plc, 1992 BP 276 (CP).

Sople, V. V. (2012). *Managing intellectual property: The strategic imperative* (3rd ed.). New Delhi: PHI Learning.

Sternitzke, C. (2013). An exploratory analysis of patent fencing in pharmaceuticals: The case of PDE5 inhibitors. *Research Policy, 42*(2), 542-551.

Syntheta (Pty) Ltd previously Delta G Scientific (Pty) Ltd v Janssen Pharmaceutica NV and Another, (449/96) [1998] ZASCA 74; 1999 (1) SA 85 (SCA); [1998] 4 All SA 445 (A).

Wang, R. L. (2014). Ancillary orders of compulsory licensing and their compatibility with the TRIPS Agreement. *Marquette Intellectual Property Law Review, 18*(1), 88-105.

World Trade Organisation (WTO). (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Yang, D. (2012). Compulsory licensing: For better or for worse, the done deal lies in the balance. *Journal of Intellectual Property Rights, 17*(1), 76-81.

NEGLECT OF THE HUMAN RIGHTS DIMENSION IN AFRICAN IP POLICYMAKING

Andrew Rens
SJD Candidate, Duke Law School, Durham, NC; and Research Associate, IP Unit, Faculty of Law, University of Cape Town

Jimcall Pfumorodze
Senior Lecturer, University of Botswana; and LLD Candidate, University of Pretoria

ABSTRACT
In this thematic report, the authors, both members of the African Scholars for Knowledge Justice (ASK Justice) network, outline the neglect of human rights in IP policymaking; the need to end this neglect, particularly in the African context; and steps to be taken towards this goal.

KEYWORDS
intellectual property (IP), human rights, public interest, development, Africa, access to medicines, access to knowledge (A2K)

INTRODUCTION

The year 2012 provided some setbacks for expansionist intellectual property (IP) policy. The Kenyan High Court, in its ruling on the *P.A.O. v Attorney General* case, struck down portions of newly introduced anti-counterfeiting legislation. An online protest against US bills for the proposed Stop Online Piracy Act (SOPA) and Protect Intellectual Property Act (PIPA) caused the bills to be postponed indefinitely. And the European Parliament voted against EU adoption of the Anti-Counterfeiting Trade Agreement (ACTA).

The Kenyan ruling was based on a finding that Kenya's Anti-Counterfeit Act failed to sufficiently safeguard the right to health. The right to health was also at the core of opposition to ACTA, and the protests against SOPA and PIPA were grounded in concerns about the right of freedom of expression. These events were notable victories for civil society activism as mobilised by the access to medicines and access to knowledge (A2K) movements – movements that since the mid-1990s have been seeking to stem the tide of upward harmonisation of IP[1] protections.

In our view, these events were also significant demonstrations that (1) human rights are integral to IP policy, and that (2) IP policymakers typically do not pay sufficient attention to the human rights dimension. In this note, we elaborate on both these claims, and we call for an end to neglect of human rights dimensions in IP policymaking, in particular on the African continent. There have been other instances, in addition to those just cited from 2012, when the human rights dimension has to some extent prevailed in the IP policy-legal space: e.g., the successful litigation in relation to access to patented antiretroviral drugs in South Africa in the early 2000s, the 2001 WTO Doha Declaration on the TRIPS Agreement and Public Health, and the 2013 WIPO Marrakesh Treaty on access to copyright works for visually impaired persons (WTO, 2001; WIPO, 2013). But it is our considered opinion that these instances, and the events of 2012 mentioned above, are the exceptions that prove the rule – with the rule being that IP policymaking generally neglects the human rights dimension.

IP policymakers in both developed and developing countries are often dismissive of human rights arguments, preferring technocratic debates on economic development. However, human rights claims have played a central role in increasing access to medicines and A2K.

Human rights are not simply an additional, hitherto overlooked factor in IP rule-making, but rather an entire dimension. The human rights dimension requires not simply re-weighting of existing policy considerations or even the introduction of one more policy variable, but rather expansion of the conceptual space of policymaking to include norms previously excluded from IP policy.

IP is too often viewed as a single dimension, an axis along which a balance is struck between, on one side, the power of those who hold rights, and, on the other side, what is often termed the "public interest" (concerned with the ends IP is intended to serve, such as education, research, innovation. news reporting and the like, often accommodated by exceptions and limitations). In developing countries, a second dimension must be (and increasingly is) added to IP policymaking: development. The demands of development add a wide range of issues unknown to the traditional proprietary versus public interest dimension of earlier IP doctrine. The development dimension may result in arguments unknown to Western IP; arguments, for example, for exclusive rights over traditional knowledge (TK), or for limits on patenting of genetic resources. The third necessary dimension is human rights, which introduces issues such as compulsory licensing for essential medicines.

Despite the recent developments cited above, incumbents in several industries continue to try to shape global and national IP policy away from development and human rights considerations towards norms favourable to their business models. For example, consultants for an association of multinational pharmaceutical companies reacted with alarm to proposals in the

1 Use of the term "intellectual property (IP)" does not imply acceptance, rejection or evaluation of claims that copyrights, trademarks and patents are a species of property.

2013 draft South African Intellectual Property Policy that would replace the current registration system for patents with an examination system that would limit the awarding of dubious patents.[2] The consultants planned to set up a front organisation, made to look like a local non-profit, to raise the issue in the South African elections (Baker, 2014). According to the consultants, "South Africa is now ground zero for the debate on the value of strong IP protection. If the battle is lost here, the effects will resonate" (Baker, 2014). This demonstrates the grave importance of infusing African IP policy with the human rights dimension. At stake is whether to ensure or deny access to medicines and educational materials for millions of the world's poorest people. And when African IP policymaking processes are regarded as "ground zero" by global business alliances, African policy decisions can clearly have global repercussions.

In this thematic report, we highlight the consequences of failing to acknowledge that human rights apply to IP policy, and we suggest ways in which neglect of human rights in IP policymaking may be remedied in 21st century Africa. We do so from the standpoint that human rights, being *universal*, must be taken into account in IP policy. The encounter between human rights and IP cannot be re-framed as a question of *whether* IP *can* or *should* take human rights into account, because such questioning would represent a failure to acknowledge the inherent universality of human rights. Our standpoint is also grounded in cognisance that central features of IP that affect Africa and Africans have their origin outside the continent via, inter alia, the conceptual legacy of colonial IP theories and laws, and the more recent power plays of global trade negotiations. This inquiry, while linked to multiple other encounters between IP and human rights in global history (and their philosophical and legal antecedents), does not pretend to make sense of all such encounters and antecedents.

NEGLECT OF THE HUMAN RIGHTS DIMENSION

KENYA'S ANTI-COUNTERFEIT ACT

The petitioners in this case were all citizens of Kenya who described themselves as living positively with HIV/AIDS. They were challenging sections 2, 32 and 34 of Kenya's Anti-Counterfeit Act of 2008. They argued that these sections violated their fundamental rights as provided for by the Kenyan Constitution. Section 2 of the Anti-Counterfeit Act provided that:

> "counterfeiting" means taking the following actions without the authority of the owner of intellectual property right subsisting in Kenya or elsewhere in respect of protected goods-
> […]
> (d) in relation to medicine, the deliberate and fraudulent mislabeling of medicine with respect to identity or source, whether or not such products have correct ingredients, wrong ingredients, have sufficient active ingredients or have fake packaging; […].

The main dispute before the court was whether by enacting section 2, and by providing the accompanying enforcement provisions in the Act's sections 32 and 34, the state was in violation of its duty to ensure conditions are in place for its citizens to lead a healthy life, i.e., whether these provisions would deny the petitioners access to essential medicines and thereby violate their rights under the Constitution.

The petitioners argued that the government had failed to acknowledge and specifically exempt generic drugs and medicines from the definition of counterfeit goods in the Act. Furthermore, they argued that the state had failed to provide a clear definition of counterfeit goods under section 2 of the Act by defining counterfeit goods in the section in such a manner as would allow generic drugs to be included in the said definition, thereby effectively prohibiting importation and manufacture of generic drugs and medicines in Kenya. The petitioners submitted that if the Act was applied and enforced, their rights to life, human dignity and health, as guaranteed under Articles 26(1), 28 and 43(1) of the Constitution, were likely to be infringed, since the availability of generic drugs would likely be severely restricted and petitioners forced to rely on more expensive brand name drugs. This, in turn, would result in fewer people having access to the essential drugs for treatment of HIV and AIDS.

The state contended that the term "generic drugs" is not synonymous with "counterfeit drugs", and that the state had enacted the Anti-Counterfeit Act because counterfeit drugs could lead to death. Thus, according to the state, the Act was intended to protect citizens and did not intend to bar generic drugs.

The Court reasoned that:

> the right to life, dignity and health of people like the petitioners who are infected with the HIV virus cannot be secured by a vague proviso in a situation where those charged with the responsibility of enforcement of the law may not have a clear understanding of the difference between generic and counterfeit medicine. *(P.A.O v Attorney General,* 2012, §84)

Furthermore, the Court stated that:

> [s]hould the Act be implemented as it is, the danger that it poses to the right of the petitioners to access essential medicine which they require on a daily basis in order to sustain life is far greater and more critical than the protection of the intellectual property rights that the Act seeks to protect. The right to life, dignity and health of the petitioners must take precedence over the intellectual property rights of patent holders. *(P.A.O v Attorney General,* 2012, §85)

2 South Africa, unlike developed economies such as the US and EU, and emerging economies such as India and Brazil, does not examine patents for compliance with patenting requirements.

Accordingly, the Court found that sections 2, 32 and 34 of the Anti-Counterfeit Act threatened to violate the right to life of the petitioners as protected by Article 26(1) of the Constitution, the right to human dignity guaranteed under Article 28, and the right to the highest attainable standard of health guaranteed under Article 43(1) (*P.A.O v Attorney General,* 2012, §87).

ACTA

Although African countries, with the exception of Morocco, were excluded from negotiation of ACTA, there were aspects of ACTA, including the interdiction of goods in transit, that threatened lawful import of medicines by developing countries (Rens, 2011).

The rejection of ACTA in July 2012 was decisive; 478 Members of European Parliament (MEPs) voted against ACTA, with only 39 voting in favour and 165 abstentions. As a result, ACTA will likely not come into force. (ACTA was negotiated by the trade officials of the EU, Australia, Canada, Japan, Mexico, Morocco, New Zealand, South Korea, Switzerland and the US.).

The popular opposition to ACTA was initially prompted by A2K concerns among experts and civil society in developed countries, with a focus on copyrights rather than patents. Nevertheless, opponents of ACTA quickly took up criticisms of ACTA as inimical to access to medicines in developing countries (Rens, 2011) and allied themselves with access to medicines campaigners, resulting in the surprising defeat of ACTA.[3]

FINDINGS BY UN HUMAN RIGHTS SPECIAL RAPPORTEURS

A March 2015 report on copyright law by the UN Special Rapporteur to the Office of the High Commissioner for Human Rights (OHCHR) in the field of cultural rights, Farida Shaheed, found a structural gap between copyright and the requirements of international human rights (Special Rapporteur to UN OHCHR, 2015a).

The report focused on copyright policy in relation to the right to science and culture, surveying the ways in which copyright impedes A2K and suggesting that future efforts at copyright lawmaking should ensure compatibility with human rights. According to the report's Recommendation 94, "[i]nternational copyright instruments should be subject to human rights impact assessments and contain safeguards for freedom of expression, the right to science and culture, and other human rights." Similarly, Recommendation 96 calls for countries to conduct human rights impact assessments of domestic copyright law and policy (Special Rapporteur to UN OHCHR, 2015a, §94, §96).

A sister report on patent law in August 2015, by the same UN Special Rapporteur on cultural rights, recommended that international patent instruments should also be subject to human rights impact assessments, that that such instruments should "contain safeguards for human rights, including the right to health, food, science and culture", and that human rights impact assessments should be applied to domestic patent law and policy (Special Rapporteur to UN OHCHR, 2015b, §95, §97). Similarly, UN Special Rapporteurs on health have reported on IP undermining access to medicines, and have produced Human Rights Guidelines for Pharmaceutical Companies in relation to Access to Medicines (Special Rapporteur to UN OHCHR, 2008, 2009).

The clear implication in these UN recommendations is that international and national copyright and patent laws and policies typically do not give proof of taking human rights into account.

THE PRIMACY OF HUMAN RIGHTS

Some commentators see an appropriately balanced human right to IP as a means to re-establish the legitimacy of IP rights (Geiger, 2015). Others warn of capture of human rights institutions by an expansive corporatist view advocating an absolute human right to IP (Yu, 2007), or of mobilisation of human rights discourse against the weakest in society by powerful governments and corporations (Oguamanam, 2014). For instance, a stance that individual authors and inventors have fundamental human rights to their creativity could operate against indigenous communities seeking to reserve cultural knowledge for traditional rather than commercial uses (Oguamanam, 2014; Yu, 2007). It is not our purpose here to restate the debates on the extent to which human rights can or should be reconciled with IP.[4] We remain sceptical of claims that it is logically possible to reject the universality of human rights but then to use human rights in IP analysis either for rhetorical purposes or as simply one more consideration in the analysis. Our stance is that adding the human rights dimension to IP policymaking is a necessity for Africa, with profound implications.

Most discussions of human rights and IP begin with Article 15(1) of the International Covenant on Economic, Social and Cultural Rights of 1966, which states that

> The States Parties to the present Covenant recognize the right of everyone:
> (a) To take part in cultural life;
> (b) To enjoy the benefits of scientific progress and its applications;
> (c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

Read baldly, this Article 15(1) has the potential to be construed as a basis for arguments either limiting *or* justifying IP. Some proponents of increasing the extent and power of IP rights contend that Article 15(1) establishes a human right to IP. Dean (1997) argues that the right to IP, properly recognised, would prevent a parliament from repealing

3 See Rens (2015) for lessons to be learned in Africa from the defeat of ACTA.

4 See Helfer (2003) for more on these debates.

IP laws; would sometimes require the passing of IP laws; and would necessarily involve "detrimental impact" on other human rights. Dean (2015) also argues for other human rights to be considered in IP proceedings primarily as defences to presumptively valid IP rights – and then only if there is a textual basis in the IP legislation to which to attach the human rights defence. In other words, the claim that there is an IP right that can be infringed without requiring evidence of damages is sufficient to shift the onus onto the defendant, who must then find a textual basis in the IP legislation at issue in order to raise a defence based on another human right.

By way of contrast, Nwauche (2005), in a pioneering analysis of human rights and IP intersecting in Africa, argues that a balance between other human rights and a human right to IP can be achieved through reading Article 15(1)(b) and (c) as equal. This approach, while appealing in the balance sought, collapses human rights into the aforementioned internal, one dimensional (private rights versus public interest) axis of IP analysis.

Human rights authorities reject interpretation of the International Covenant's Article 15(1) as grounding a human right to IP, because the drafting history and contemporary rights theories do not support such an interpretation; human rights are irrevocable whereas IP rights are revocable. The UN Committee on Economic, Social and Cultural Rights (UN CESCR) has found that the right in Article 15(1)(c) derives from the dignity of persons, and is closely linked to the rights to adequate compensation and to an adequate standard of living. Therefore, the Committee argues, it is "important not to equate intellectual property rights with the human right" (UN CESCR, 2006).

Taking up this theme, the aforementioned March 2015 report of the UN Special Rapporteur on cultural rights insists:

> It is sometimes claimed that intellectual property rights are human rights, or that article 15, paragraph 1 (c), of the International Covenant on Economic, Social and Cultural Rights recognizes a human right to protection of intellectual property along the lines set out by the TRIPS Agreement and other intellectual property treaties. The Committee on Economic, Social and Cultural Rights has stressed that this equation is false and misleading. (Special Rapporteur to UN OHCHR, 2015a, §26)

The Special Rapporteur on cultural rights goes on to point out that while some aspects of contemporary IP laws are compatible with the right to science and culture, other aspects are incompatible. Since it is grounded in the dignity of the human person, a human right (unlike IP rights) can only be held by the human creator of a work, not by corporations or legal succesors; nor can a human right be transferred (while economic IP rights can be transferred). The right to protection of material interests does not necessarily equate to a claim to exclusive control, but rather to a claim for compensation (Special Rapporteur to UN OHCRH, 2015a, §49-50).

The crucial importance of applying the "human rights perspective" to copyright, according to the UN Special Rapporteur on cultural rights, is that it

> focuses attention on important themes that may be lost when copyright is treated primarily in terms of trade: the social function and human dimension of intellectual property, the public interests at stake, the importance of transparency and public participation in policymaking, the need to design copyright rules to genuinely benefit human authors, the importance of broad diffusion and cultural freedom, the importance of not-for-profit cultural production and innovation, and the special consideration for the impact of copyright law upon marginalised or vulnerable groups. (Special Rapporteur to UN OHCHR, 2015a, §90)

Similarly, according to the Special Rapporteur, the importance of applying the "human rights perspective" to patents is that it focuses attention on many of the same concerns as those produced by copyright and, in addition, on:

> the need to design patent and alternative incentive regimes to promote research, creativity and innovation, the importance of broad diffusion of technological advances and scientific freedom, the importance of not-for-profit scientific production and innovation […]. (Special Rapporteur to UN OHCHR, 2015b, §88)

As these statements by the Special Rapporteur make clear, the human rights field has developed a sophisticated framework for balancing competing legitimate interests, resource constraints, and the limits of rights. IP policies and laws can benefit from this framework, both in their design and interpretation. The human rights field, because it is able to make sense of non-utilitarian claims, offers ways to take into account a far wider range of claims than IP law and theory have traditionally acknowledged, thus offering the possibility of developing patent, copyright, and trademark regimes that conflict less, co-exist better, and perhaps even complement, human rights. Two closely-related IP contexts that clearly benefit from application of the human rights dimension are access to medicines and A2K.

ACCESS TO MEDICINES AND A2K

The access to medicines and A2K movements are responses to the creation of a global political economy mobilised for the extension of IP. This political economy is the result of an alliance between corporations reliant on patents (e.g., pharmaceutical manufacturers), corporations reliant on trademarks (e.g., manufacturers of consumer goods such as tobacco), and the retainers of corporations seeking ever greater extension of copyright (e.g., Hollywood's movie and music lobbies). The efforts of this alliance succeeded in moving the centre of IP policymaking from a dedicated UN agency, the World Intellectual Property Organisation (WIPO), to the World Trade Organisation (WTO), and embedded an IP agenda in the WTO enforcement mechanisms in the form of the WTO Agreement on Trade-Related

Aspects of Intellectual Property Rights (TRIPS Agreement) (Drahos & Braithwaite, 2002, p. 108). This new politics of IP, driven by the alliance of self-styled "rights-holders", includes not only TRIPS but also bilateral trade agreements and a drive to export developed-world national legislative models (e.g., the US Bayh-Dole Act on publicly funded research) to developing countries.

Although patents have been the primary focus of access-to-medicine analysis, copyrights and database rights as applied to scientific (especially medical) research also pose serious threats to access to medicines (Reichman & Okediji, 2012). African researchers too often cannot afford access to important copyrighted peer-reviewed publications, thus jeopardising the ability of their countries to develop medicines, including medicines for diseases neglected by the large pharmaceutical multinationals (Gold et al., 2010). Data exclusivity, a monopoly on data obtained from human trials on the safety and efficacy of new medicines that is included in TRIPS and other treaties, not only restricts access to medicines but problematically privatises benefits from the participation of volunteers. Recent trade negotiations, on instruments such as the Trans-Pacific Partnership (TPP), Transatlantic Free Trade Area (TAFTA) and Transatlantic Trade and Investment Partnership (TTIP), have been attempting to increase the scope of data exclusivity.[5] Thus, as access to medicines analysis extends to the entire value chain of drug discovery and manufacture, it increasingly converges with A2K concerns, and a key element of this convergence is the shared linkage to the human rights dimension.

THE WAY FORWARD

For the human rights dimension to become a systematic element of IP policymaking at global level and in African continental, regional and national settings, two elements of the way forward are as follows:

HUMAN RIGHTS IMPACT ASSESSMENT

We endorse the recommendation cited above, in the reports of the Special Rapporteur to the UN OHCHR on cultural rights, that international and national copyright and patent instruments be subject to human rights "impact assessments" aimed at ensuring safeguards for the rights to freedom of expression, science and culture, health, food, and other human rights. It is our view that this human rights impact assessment approach should be adopted not just for copyright and patent instruments, but for all IP policy and legal tools.

A SCHOLARLY NETWORK

Further research is needed on the role that the human rights dimension has, or has not, played to date in African IP policymaking. Accordingly, the African Scholars for Knowledge Justice (ASK Justice) network, of which we are both part, is developing a targeted research programme in Botswana, Kenya, South Africa and Uganda. The research will consider to what extent, and in which ways, human rights have influenced IP policy processes in these countries, and how these processes and policies measure up against human rights principles. This network of IP and human rights scholars will also create curricular and teaching resources, and offer expert inputs to policy processes.

This kind of work should not be dismissed as merely academic. The Centre for Human Rights at the University of Pretoria in South Africa has demonstrated the potential for influence on public policy through its work with the African Commission on Human and People's Rights, which resulted in a Resolution on Access to Medicines (ACHPR, 2008).

Furthermore, in addition to access to medicines and A2K, there are many other IP-connected challenges emerging in Africa – including food security, investor treaty dispute mechanisms, and traditional knowledge – that require the three-dimensional policy analysis we have argued for in this thematic report: analysis in terms of the public interest, development, and human rights.

REFERENCES

African Commission on Human and People's Rights (ACHPR). (2008). Resolution 141 on Access to Health and Needed Medicines in Africa. 44th Ordinary Session, Abuja,10 to 24 November.

Baker, B. (2014, 18 January). US PhRMA bares its fangs – South Africa patent law reform and access to medicine at risk yet again. infojustice.org. Retrieved from http://infojustice.org/archives/31986

Dean, O. H. (1997). The case for recognition of intellectual property in the Bill of Rights. *Journal of Contemporary Roman Dutch Law (THRHR), 60*, 105-119.

Dean, O. H. (2015, 14 July). Intellectual property and the Constitution. Anton Mostert Chair of Intellectual Property (CIP) Blog, Stellenbosch University. Retrieved from http://blogs.sun.ac.za/iplaw/2015/07/14/intellectual-property-and-the-constitution/

Drahos, P., & Braithwaite, J. (2002). *Information feudalism: Who owns the knowledge economy?* London: Earthscan.

Geiger, C. (2015). Implementing intellectual property provisions in human rights instruments: Towards a new social contract for the protection of intangibles. In C. Geiger (Ed.), *Research handbook on human rights and intellectual property* (pp. 661-6). Cheltenham, U.K. Edward Elgar.

5 The assertion that these treaty negotiations include attempts to extend data exclusivity is based on partial information because of the controversial secrecy of the negotiations.

Gold, E. R., Kaplan, W., Orbinski, J., Harland-Logan, S., N-Marandi, S. (2010). Are patents impeding medical care and innovation? *PLoS Med 7*(1).

Helfer, L. R. (2003). Human rights and intellectual property: Conflict or coexistence? *Minnesota Intellectual Property Review, 5*, 47-61.

International Covenant on Economic, Social and Cultural Rights (1966).

Minister of Health and Others v Treatment Action Campaign and Others, (No 2) (CCT8/02) [2002] ZACC 15.

Nwauche, E. S. (2005). Human rights-relevant considerations in respect of IP and competition law. *SCRIPT-ED, 2*(4), 467-484.

Oguamanam, C. (2014). Intellectual property: The promise and risk of human rights. In B. C. Doagoo, M. Goudreau, M. Saginur, & T. Scassa (Eds.), *Intellectual property for the 21st century: Interdisciplinary approaches* (pp. 343-346). Toronto: Irwin Law.

P.A.O & 2 OTHERS v Attorney General, [2012] eKLR. Retrieved from http://kenyalaw.org/caselaw/cases/view/79032

Reichman, J. H., & Okediji, R. L. (2012). When copyright law and science collide: Empowering digitally integrated research methods on a global scale. *Minnesota Law Review, 96*, 1362-1480.

Rens, A. (2011). Collateral damage: The impact of ACTA and the enforcement agenda on the world's poorest people. *American University International Law Review, 26*(3), 783-809.

Rens, A. (2015). Lessons to be drawn from the ACTA process: An African perspective. In P. Roffe, & X. Seuba (Eds.). *The ACTA and the plurilateral enforcement agenda: Genesis and aftermath* (pp. 211-224). Cambridge, UK: Cambridge University Press.

Republic of Kenya. (2008). Anti-Counterfeit Act 13 of 2008.

Special Rapporteur to UN OHCHR (2008). Human Rights Guidelines for Pharmaceutical Companies in relation to Access to Medicines. In *Report of Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Paul Hunt*. Office of the High Commissioner for Human Rights (OHCHR). UN General Assembly 63rd Session, 11 August, New York.

Special Rapporteur to the UN OHCHR (2009). *Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Anand Grover*. Office of the High Commissioner for Human Rights (OHCHR). Human Rights Council 11th Session, 31 March, UN General Assembly, New York.

Special Rapporteur to UN OHCHR (2015a). *Report of the Special Rapporteur in the field of cultural rights Farida Shaheed: Copyright policy and the right to science and culture*, Office of the High Commissioner for Human Rights (OHCHR). Human Rights Council 28th Session, 14 March, UN General Assembly, New York.

Special Rapporteur to UN OHCHR (2015b). *Report of the Special Rapporteur in the field of cultural rights Farida Shaheed: Patent policy and the right to science and cultur*e. Office of the High Commissioner for Human Rights (OHCHR). Human Rights Council 70th Session, 4 August, UN General Assembly, New York.

UN Committee on Economic, Social and Cultural Rights (UN CESCR). (2006). *General comment 17: The right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he or she is the author (article 15, paragraph 1 (c), of the Covenant).* E/C.12/GC/17, 12 January.

World Intellectual Property Organisation (WIPO). (2013). Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled.

World Trade Organisation (WTO). (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).

WTO. (2001). Declaration on the TRIPS Agreement and Public Health. Adopted by WTO Ministerial Conference, 14 November, Doha.

Yu, P. K. (2007). Reconceptualizing intellectual property interests in a human rights framework. *U.C. Davis Law Review, 40*,1039-11469.

PROSPECTS FOR OPEN LICENSING OF KNOWLEDGE MATERIALS IN ETHIOPIA

Seble G. Baraki
Legal Lead, Creative Commons Ethiopia, Addis Ababa

ABSTRACT
Ethiopia, one of the world's poorest countries, has in the past two decades made significant strides in national educational attainment. However, the country's educational policy objectives still face numerous barriers. In this piece the author argues that a key challenge for Ethiopia's education system is access to knowledge (A2K), specifically access to copyright-protected scholarly and learning materials. The author proposes increased use of open-licensed materials, such as those licensed under the Creative Commons (CC) suite of licensing tools, which take a flexible approach to copyright in order to allow users to, inter alia, engage in permission-free copying and re-distribution of the works. Greater use of such open materials would, the author contends, produce cost savings for the Ethiopian government, allowing the state to increase its investments in other key components of the educational system such as facilities, Internet connectivity and teacher training and support.

KEYWORDS
Ethiopia, poverty reduction, education, access to knowledge (A2K), copyright, open licensing, open access (OA), open educational resources (OER), Creative Commons (CC)

INTRODUCTION: ETHIOPIA'S ACCESS TO KNOWLEDGE CHALLENGES

Since the early 1990s, Ethiopia has waged an ambitious campaign to expand its learning institutions nationwide. Driven by the objectives of its 1994 Education and Training Policy (FDRE, 1994), the country has been able to increase the enrolment numbers of its citizens at all levels of education (UNDP, 2012). At the higher education level, the state has increased the number of public universities from two in 1991 to 32 in 2013 (MoE, n.d.; UNDP, 2015). But despite the successes of the past two decades, the educational system still faces many difficulties. The focus of this article is on one particular challenge: access to knowledge (A2K). At primary and secondary school levels, A2K is undermined by a range of factors, including inadequate facilities, lack of Internet connectivity, and shortages of learning materials (see World Bank, 2015). At tertiary level, the A2K deficit has an added dimension: inadequate levels of participation by Ethiopian academics and researchers in online scholarly collaboration and sharing of findings.

Ethiopia's A2K challenges, intertwined with the country's high levels of poverty, are already being addressed on several fronts – by the Ethiopian government, donors and NGO programmes – in support of, inter alia, better facilities, improved Internet connectivity, and more electronic and hard-copy learning materials (see, for example, Roots Ethiopia (n.d.); World Bank, 2015). But one of the A2K strategies that has gained a great deal of momentum elsewhere in the world – reduction of copyright barriers through open licensing of scholarly and learning materials – is only just beginning to take hold in the country.

In the next section, I establish the importance of education (of which A2K is a key enabler) to poverty alleviation, and vice versa, in developing countries such as Ethiopia. I then provide an outline of the potential barriers to learning materials access in Ethiopia, including barriers connected to copyright, and look at how open licensing approaches such as Creative Commons (CC) have emerged as an attempt to minimise copyright's negative impacts on access to, and use of, knowledge goods. The fourth section looks at the current state of open licensing in Ethiopia, and the final section proposes a way forward.

ADDRESSING EDUCATION AND POVERTY

Poverty is not only the absence of financial resources; it is also the lack of capability to fully function in a society. Poverty has been defined as "a condition that results in an absence of the freedom to choose arising from a lack of the capability to function effectively in a society" (Omoniyi, 2013). This definition resonates with Sen's (1999) "capability approach" to evaluation of human well-being. To date, despite the anti-poverty measures implemented in different countries and through global initiatives, poverty is still prevalent in many parts of the world, including much of sub-Saharan Africa. Ethiopia's latest UN Human Development Index (HDI) ranking was 173rd out of 186 countries, putting it among the group of 43 "low human development" countries, the majority of which are in sub-Saharan Africa (UNDP, 2015). According to the World Bank's latest estimate, 29.6% of Ethiopians live below the poverty line (World Bank, 2014). The World Bank's current statistical definition of poverty is individual income of USD1.25 or less per day (World Bank, n.d.).

The quality provision of education, at all levels, is essential in the process of poverty alleviation and achieving overall development. Poverty and education are intertwined. Poverty acts as a factor preventing people from accessing education, by handicapping, inter alia, school attendance and the acquisition of learning and other pedagogic materials. At the same time, lack of education minimises people's ability to escape poverty. Investment in education increases the skill and productivity of poor households, which in turn enhances the wage levels as well as the overall welfare of the population (Maiyo et al., 2009). Looked at from the perspective of national economic development, the more the population in a given country is educated, the better the performance and competitiveness of its labour force and of the country in general (Omoniyi, 2013). Thus access to quality education at all levels is essential in the process of transforming societies and economies in developing countries.

This role of education in national development is affirmed in Ethiopia's Education and Training Policy of 1994, which calls for expansion of quality, equitable and relevant education and training (FDRE, 1994). The chief stated goal of the Policy is the cultivation of citizens with an all-round education who are capable of playing a conscious and active role in the economic, social, and political life of the country at various levels. Accordingly, the Policy calls for strengthening of "the individual's and society's problem-solving capacity, ability and culture starting from basic education and at all levels" (FDRE, 1994, p. 1). To achieve the goals of the Policy, it is imperative that the fundamental problems of the educational system are addressed stage by stage. Various strategies and methods have been devised to implement the Policy, including, inter alia, changes to curriculum, improved provision of educational materials and equipment, and improvement in the quality and quantity of teacher training (MoE, 2002).

The country has made significant progress in providing universal access to primary education (UNDP, 2012). For instance, the net enrolment ratio (NER) in the lower primary school cycle (Grades 1 to 4) increased from 77.5% in 2004-05 to 92.2% in 2011-12, and in the upper cycle of primary education (Grades 5 to 8), the NER rose from 37.6% to 48.1% during the same period (UNDP, 2012). However, the country's education sector still faces many obstacles.

A2K, COPYRIGHT AND OPEN LICENSING

Access to high-quality and relevant teaching and learning materials – a key element of A2K – is undermined by many resource-related obstacles. In poor countries such as Ethiopia, access is often denied by failure, at both household and government levels, to generate the economic means to acquire necessary materials. This element of A2K can also be hampered by policy and legal frameworks, including copyright laws and regulations. Recent research has revealed the potentially negative access dynamics engendered by copyright environments in African countries (Armstrong et al., 2010).

Copyright provides exclusive rights to creators (or rights-holders, e.g., publishers, who have acquired the rights from creators) over original literary and artistic works. Among these, the rights to control how a work is produced, distributed, copied and used are crucial in the light of access to educational materials. The theory behind copyright law is that it allows creators to benefit economically, for a limited period, from the works they produce, thus helping them achieve compensation and incentivising them to generate more works. But at the same time, copyright regimes provide an access dimension, via limitations and exceptions allowing certain permission-free uses of protected works for public interest purposes, including educational purposes.

This second element of copyright law, the access element, has been sidelined by emphasis on protecting the interests of rights-holders, despite the significant impact a lack of access may have on socio-economic development, particularly in low-income countries such as Ethiopia. Internationalisation of strong copyright protection via multilateral and bilateral agreements, via measures (e.g., digital rights management (DRM) technologies) put in place by private entities such as publishers, via introduction of anti-circumvention laws, and via state-supported stringent enforcement mechanisms, have weakened elements of copyright limitations and exceptions, making access to certain copyrighted materials increasingly difficult in the digital era. However, at the same time the digital revolution also carries the potential to make A2K easier. The Internet and related information and communication technologies (ICTs) provide powerful platforms with the potential to greatly expand A2K in both the developed and developing worlds.

Seeking to mitigate the access challenges created by current copyright regimes and, at the same time, to harness the potential offered by ICT platforms, open licensing movements have emerged. These movements aim to improve access to, and use of, works under copyright, including access and use for public interest purposes such as education. A key open licensing system is the Creative Commons (CC) suite of flexible copyright licences.

The Creative Commons movement is based on the assumption that societies grow, cultures develop and innovation exists through sharing (Creative Commons, 2014). Use of CC licences allows creators (i.e., copyright-holders) to share their materials more freely while still retaining some of the rights granted by copyright laws. By applying one of the CC licences to a work, a creator (or publisher or whoever the rights-holder is) is able to allow users to perform one or more of several possible uses on a permission-free basis. These uses include: copying and re-distribution of the work (provided the rights-holder is attributed); and adaptation of the work (provided the rights-holder is attributed) (Creative Commons, n.d.). CC licences also allow the licensor to specify whether the work can be used for commercial gain and whether adapted versions of the work must be distributed on a "share alike" basis (i.e., under the same CC licence) (Creative Commons, n.d.). In 2014, there were 882 million online works carrying a CC licence (Creative Commons, 2014).

OPEN LICENSING IN ETHIOPIA

COPYRIGHT LAW

The Copyright and Neighbouring Rights Protection Proclamation No. 410/2004 (Proclamation No. 410/2004) governs the protection of copyrightable works in Ethiopia (FDRE, 2004). The Proclamation recognises the vital role that literary, artistic, scientific and similar works have in enhancing the development of the country (FDRE, 2004). As with copyright statutes elsewhere in the world, Proclamation No. 410/2004 provides bundles of economic and moral rights to creators of works falling under its scope of application. The law is applicable to: works by Ethiopian nationals or those who have their principal residence in Ethiopia; works published in Ethiopia; and works published abroad and then published in Ethiopia within 30 days. The specific scope of application of the Proclamation can be found in its Article 3. (As Ethiopia is not a signatory to relevant international copyright agreements such as the WIPO Berne Convention and the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the Proclamation's Article 3 is the key to determining what is protected in Ethiopia.)

As is typically the case in a national copyright regime, economic rights granted under Ethiopian copyright law – including the rights to copy, adapt, translate and commercially exploit (e.g., exhibit, rent, sell) – can be carried out by the creator and/or licensed or assigned to another party (in accordance with the stipulations of Article 23 of Proclamation No. 410/2004). The term of copyright protection for most of these economic rights is 50 years from the time of death of the work's author. According to Article 23(2) of Proclamation No. 410/2004, any licensing of a work by a copyright-holder "shall be made in writing". How the relevant court in Ethiopia would interpret this requirement of "in writing" – a requirement typically associated with signed documents – is a point to consider in relation to use of CC licensing in the country, i.e., a question arises: would the modalities of online CC licensing, which consist of applying the licence through use of an online notice and not via a signed document, suffice in the Ethiopian context? In my view, this question can be answered in the affirmative, i.e., it can be presumed that CC licences have the capacity to be enforceable under Proclamation No. 410/2004, as long as both parties are informed of the terms and conditions. But it is not possible to make a firm determination on this matter based on existing decisions of the relevant Ethiopian court.

Another provision of Proclamation No. 410/2004 relevant to the applicability of CC licences in Ethiopia is the provision in article 24(3) that

> [w]here an agreement for the assignment or licensing of specific economic right fails to specify the time for which the assignment or license shall operate, the assignment or license shall terminate after 10 or 5 years respectively. (Art. 24(3), FDRE, 2004)

CC licences do not specify duration, and thus some might argue that the effect of Article 24(3) is that the maximum duration of a CC licence in Ethiopia would be five years. However, if one takes the CC BY (Attribution) licence as an example, the licence states that it "applies for the term of the Copyright and Similar Rights licensed here" (Creative Commons, n.d.). Thus, it can be presumed that the rights assigned by a CC licence would be valid for the full 50 years from the time of death of the author as specified in the Ethiopian Copyright Proclamation.

OPEN ACCESS (OA) SCHOLARLY WORKS AND OPEN EDUCATIONAL RESOURCES (OER)

The local CC chapter was established in 2014 (Creative Commons Ethiopia, n.d.), but open licensing movements are at present only in their infancy in Ethiopia.

I now turn to an examination of two key types of open-licensed materials: (1) open access (OA) scholarly works; and (2) open educational resources (OER).

OA

OA distribution of resources, often under CC licences, aims to ensure global dissemination of scholarly outputs from universities and other research-focused bodies. A great deal of OA distribution occurs via online CC-licensed academic journals, and via online repositories of university theses and dissertations.

At the time of writing in mid-2015, there were several Ethiopian OA academic journals listed on the African Journals Online (AJOL) platform, including the *Bulletin of the Chemical Society of Ethiopia, Ethiopian Journal of Education and Sciences, Ethiopian Journal of Environmental Studies and Management, Ethiopian Journal of Health Development, Ethiopian Journal of Health Sciences, Ethiopian Journal of Science and Technology, Ethiopian Veterinary Journal, Journal of Business and Administrative Studies, Mizan Law Review and Momona Ethiopian Journal of Science* (AJOL, n.d.).

However, there were only two Ethiopian OA repositories listed in the global Directory of Open Access Repositories (OpenDOAR, n.d.): the Addis Ababa University Libraries Electronic Thesis and Dissertations Database (AAU-ETD) and the Horn of Africa Regional Environment Centre and Network repository. It is thus clear that Ethiopian university take-up of OA publishing is still only at a very early stage. Greater use of OA will help, inter alia, the country's researchers and scholars to increase their participation in international, online "open science" collaborations.

OER

OER distribution, also typically under CC licences, aims to make learning materials widely available online so that schools, teachers and learners do not need to invest significant resources in accessing and using such materials. The materials, which typically can be adapted on a permission-free basis by educators as well as freely copied and re-distributed, are becoming a key form of educational content in the developing world, including many African nations. However, at present, there is very little emphasis on OER in Ethiopia, as evidenced by the low volume of Ethiopian content presently on the OER Africa platform (OER Africa, n.d.).

OERs can significantly diminish a country's spending on the provision of educational materials. The monies saved can then be used, inter alia, to improve facilities, to increase ICT infrastructure and Internet access, and to train teachers. There is already a wide range of English-language OER materials available online that would be of potential use in Ethiopia, because English is the medium of instruction at secondary and tertiary education levels. For use of OER at primary level, where Ethiopian indigenous languages (such as the official working language of the federal government, Amharic) are the languages of instruction, there would need to be investment in creating new OER resources in such languages, e.g. via translation of English-language materials.

WAY FORWARD

For open licensing of copyright materials to gain more momentum in Ethiopia, the following are two possible elements of the way forward:

OFFLINE OER

If OER is to gain a strong presence in Ethiopia, consideration needs to be given to providing not only *online*, but also *offline*, access to OER materials. Since its inception, the global focus of CC licensing has been online application of its licences. However, this online emphasis potentially loses some of its efficacy in countries such as Ethiopia where Internet penetration is still very low. Ethiopia's Internet penetration sits at approximately 4.5% to 5% of the population (MCIT, 2012), among the lowest levels on the African continent and the world. (Ethiopia's population is roughly 95 million people, meaning the country is home to tens of millions of people who do not use the Internet.).

Where Internet penetration is weak, emphasis can be placed on offline use of resources carrying CC or other open licences, i.e., open-licensed educational resources can be made available in paper format, or in digital form on computers and other ICT devices not connected to the Internet, at libraries and other communal facilities. Here, the experience of a non-profit project called New Education Highway (NEH) in Asia is notable (NEH, 2015). In Myanmar, NEH focuses on giving access to quality educational materials to remote and rural communities that have no or limited Internet connectivity (Park, 2013). Via community partnerships, and combined with teacher training and provision of sample teaching materials to accompany the learning materials, NEH makes CC-licensed OER materials available on an offline basis, in collaboration with governmental and non-governmental entities (NEH, 2015).

THE "PAN-AFRICAN OPEN MOVEMENT"

Linkages need to be forged been Ethiopian open licence proponents and the open licensing initiatives already active elsewhere on the African continent. A positive step in this direction occurred in 2014, the same year that the Creative Commons Ethiopia chapter was launched, when an Ethiopian delegate was present in Cape Town for the first phase of the #OpenAfrica14 training initiative, which sought to build a "pan-African Open Movement community" (WikiAfrica, n.d.2). Ethiopia was subsequently chosen as the first stop for the Kumusha Bus initiative, which brings together national groupings of open source and open content practitioners. In June 2014, the Kumusha Bus convened Ethiopian representatives of Wikimedia, Creative Commons, the Computer Science 4 High School Students project, Sheger Media, AIESEC and Addis Ababa University in the Ethiopian capital Addis Ababa for four days of activities aimed at generating "interest and participation in Africa's growing Open Movement" (WikiAfrica, n.d.1). Some of the participants in this Addis Kumusha Bus event then went on to launch Project Luwi, which "intends to create a local community of interested volunteers […] able to foster motivation and creativity around Open Educational Resources (OERs) and [support] a culture of sharing information freely in Ethiopia" (Project Luwi, n.d.).

These are the types of linkages and initiatives that can help to bring Ethiopia more into the mainstream of open licensing in Africa and, in turn, improve the country's efforts to combat poverty through improved educational attainment.

REFERENCES

African Journals Online (AJOL). (n.d.). Website. Retrieved from http://www.ajol.info

Alemu, G. (2009). *The role of open access in fostering knowledge sharing and collaboration in Ethiopia: A case study*. MSc Thesis, University, Estonia. Retrieved from http://eprints.rclis.org/16555

Armstrong, C., De Beer, J., Kawooya, D., Prabhala, A., & Schonwetter, T. (Eds.) (2010). *Access to knowledge in Africa: The role of copyright*. Cape Town: UCT Press.

Creative Commons. (2014). State of the commons. Retrieved from https://www.stateof.creativecommons.org

Creative Commons. (n.d.). About the licenses. Retrieved from https://creativecommons.org/licenses

Creative Commons Ethiopia. (n.d.). Facebook page. Retrieved from https://www.facebook.com/pages/Creative-Commons-Ethiopia/570133986419885

Federal Democratic Republic of Ethiopia (FDRE). (1994). *Education and training policy*. Retrieved from http://www.moe.gov.et/mobile/Resources/education_and_training_policy.pdf

FDRE. (2004). Copyright and Neighboring Rights Protection Proclamation, Proclamation No. 410/2004. Retrieved from http://www.wipo.int/edocs/lexdocs/laws/en/et/et001en.pdf

Maiyo, J., Amunga, J.K., & Ashioya, I.A. (2009). Poverty alleviation: The educational planning perspective. *Journal of Education Administration and Policy Studies*, *1*(2), 15-22.

Ministry of Communication and Information Technology (MCIT). (2012). ICT sector development in Ethiopia. Retrieved from www.mcit.gov.et/web/english/ict-sector-development-in-ethiopia

Ministry of Education (MoE). (2002). *The education and training policy and its implementation*. Retrieved from http://www.moe.gov.et/mobile/Resources/Education%20Policy%20%20Implementation.pdf

MoE. (n.d.). Public universities. Retrieved from www.moe.gov.et/English/Information/Pages/pubuni.aspx

New Education Highway (NEH). (2015). Vision/mission. Retrieved from www.neweducationhighway.org/visionmission.html

OER Africa. (n.d.). Website. Retrieved from http://www.oerafrica.org

Omoniyi, M.B.I. (2013). The role of education in poverty alleviation and economic development: A theoretical perspective and counselling implications. *British Journal of Arts and Social Sciences*, *15*(2), 176-185. Retrieved from www.bjournal.co.uk/paper/BJASS_15_2/BJASS_15_2_07.PD

OpenDOAR (Directory of Open Access Repositories). (n.d.). Website. Retrieved from http://www.opendoar.org

Park, J. (2013, 3 July). New education highway uses OER to make education accessible in Myanmar. Retrieved from Creative Commons: ww.creativecommons.org/tag/offline

Project Luwi. (n.d.). Facebook page. Retrieved from http://www.facebook.com/projectluwi

Roots Ethiopia. (n.d.). Learning resource projects. Retrieved from http://www.rootsethiopia.org/projects/learning-resources-projects

Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.

UN Development Programme (UNDP). (2012). *UNDP in Ethiopia: Achieve universal primary education: Where we are?* Retrieved from http://www.et.undp.org/content/ethiopia/en/home/mdgoverview/overview/mdg2.html

UNDP. (2015). *National human development report 2014: Ethiopia*. Retrieved from http://hdr.undp.org/sites/default/files/nhdr2015-ethiopia-en.pdf

UN Educational, Scientific and Cultural Organisation (UNESCO). (n.d.). Global open access portal: Ethiopia. Retrieved from www.unesco.org/new/en/communication-and-information/portals-and-platforms/goap/access-by-region/africa/ethiopia

WikiAfrica. (n.d.1). Projects: Kumusha bus. Retrieved from http://www.wikiafrica.net/projects/kumusha-bus

WikiAfrica. (n.d.2). #OpenAfrica14. Retrieved from http://www.wikiafrica.net/projects/open-advocacy-training-course

WikiEthiopia. (2014). Kumusha bus Addis day one. Retrieved from https://wikiethiopia.wordpress.com/2014/06/03/kumusha-bus-addis-day-one

World Bank. (2014). Data: Ethiopia. Retrieved from http://data.worldbank.org/country/ethiopia

World Bank. (2015). *Ethiopia general education quality improvement project II: Implementation status and results report*. Retrieved from http://documents.worldbank.org/curated/en/2015/06/24598774/ethiopia-ethiopia-general-education-quality-improvement-project-ii-p129828-implementation-status-results-report-sequence-03

World Bank. (n.d.). Poverty: Overview. Retrieved from http://www.worldbank.org/en/topic/poverty/overview


LINK
centre
Learning Information
Networking Knowledge
Faculty of Humanities
University of the Witwatersran