

# A CRITICAL DISCOURSE ON THE RELATIONSHIP BETWEEN SCIENCE, TECHNOLOGY, INNOVATION, AND INTELLECTUAL PROPERTY IN AFRICA

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BOOK REVIEW: CB Ncube *Science, technology & innovation and intellectual property: Leveraging openness for sustainable development in Africa* (2021) 1st ed 1-213, Juta and Company Ltd, ISBN 9781485137658.

## 1 Introduction

On the evening of 23 March 2020, the President of South Africa, Cyril Ramaphosa, appeared on our television screens announcing a nationwide lockdown in an effort to contain the spread of the novel coronavirus. This was an unprecedented moment that changed the course of global history. The coronavirus pandemic led to a grappling and rethinking of the very definition of our society. Academics, intellectuals, and thinkers alike have attempted to respond to the anomalous conditions occasioned by this pandemic.

In the area of intellectual property law, Caroline B Ncube's *Science, technology & innovation and intellectual property: Leveraging openness for sustainable development in Africa* represents a timely critical dialogue on the direction of society as it concerns sustainable development, the openness paradigm, and knowledge governance<sup>1</sup> in the context of Africa.

Although the book ideationally predates the breakout of the pandemic,<sup>2</sup> it holds relevance for how the continent of Africa and the rest of the world responded to the pandemic. The relationship between science, technology, innovation, and intellectual property is essential in light of the pandemic, precisely because the globe's knowledge economy and prospects of the openness paradigm (and therefore access to essential medicine or vaccines) rest on a thorough understanding of this relationship.

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1 These concepts are discussed/defined at length and with greater depth in the book.

2 The book is a culmination of a lifetime of CB Ncube's scholarly work. It includes insights that are drawn from her inaugural lecture titled 'The public interest in intellectual property law: African solutions to global challenges', University of Cape Town, 2018.

## 2 Overview of chapters

The argument of the book is set out in six chapters. The four substantive chapters are titled: (1) The continental framework for sustainable development, (2) Intellectual property: Global framework, (3) Intellectual property: African frameworks, science technology and innovation and sustainable development, (3) Leveraging openness to meet the challenges of our time and, (4) Continental IP Instruments and Institutions.

Chapter 1 introduces the book and unpacks the thesis the author intends to defend. Before arguing that the openness paradigm is an effective method for attaining sustainable development, Ncube begins by canvassing the minute details that foreground Africa's framework for sustainable development. She maps Africa by briefly revisiting the history of the African Union (AU), tracing its development from the Organisation of African Union's (OAU) inception in 1963. From the book's mapping of Africa, it becomes clear that the continent is politically, culturally, and economically diverse. For example, Ncube identifies five Regional Economic Communities (RECs) in Africa and illustrates the similarities and differences between them.

The core thrust of this chapter is its illustration of the organogram in which Africa's intellectual property regulatory hierarchy is layered. This organogram suggests that the AU is at the zenith, followed by RECs and intellectual property (IP) organisations. Intellectual property laws and policies, science, technology and innovation (STI) policies, and national policies are located at the lowest end of the hierarchy.

Another crucial component of this chapter is that it deepens definitional clarity regarding knowledge governance. The chapter proffers three elements of sustainable development; these are: economic, environmental, and social. The chapter argues that these three elements allow for a sharpened focus on deliverables at a policy level. Unsurprisingly, the African Continental Free Trade Agreement (AfCFTA) uses these elements to link its ambitions to Agenda 2063's vision towards achieving the integrated high-speed train network, a Pan-African Electronic University, a communications strategy, a common African passport, and others.

Chapter 2 discusses the prevailing global intellectual property law framework. The chapter recalls that the international organisation responsible for the global intellectual property framework is the World Intellectual Property Organisation (WIPO). It identifies the The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) as the most significant multilateral IP treaty. It further illustrates how this treaty defines existing forms of

IP such as copyright and related rights, trademarks, geographical indications, industrial designs, patents, integrated circuits, and undisclosed information (also known as trade secrets).

Chapter 3 demonstrates the various intellectual property frameworks in Africa. The chapter begins by distinguishing between plurilateral and bilateral agreements. The latter refers to those agreements that African states enter with a single state or a regional block (such as the EU). In contrast, the former refers to those treaties that an African state enters with several states – especially those from outside of Africa. This chapter identifies some of these treaties as potentially dangerous or concerning because they allow African states to enter into agreements that deviate from the provisions of the TRIPS agreement, culminating in what is known as TRIPS-plus.

The chapter further discusses the two African Regional IP organisations, which are the African Regional Intellectual Property Organization (ARIPO) and the *Organisation Africaine de la Propriété Intellectuelle* (OAPI). A brief read-through of the member states of these two organisations show that the divisions are between Anglophone and Francophone countries, with the latter forming OAPI and the former constituting ARIPO. This speaks to the vestigial force of colonialism that continues to define African institutions of power and knowledge long after the demise of official colonisation. The chapter reinforces that even though these two organisations hold distinct approaches to the intellectual property policy framework and knowledge governance, they strive to cooperate bilaterally and with other organisations.

Chapter 4 identifies STI as a significant component of the African Development Agenda as expressed in the Common African Position. Most importantly, the chapter shows that STI responses were critical and called upon to meet the emergency needs such as those needs necessitated by the coronavirus pandemic. In creating an academically authentic link between science and innovation, the chapter draws the reader's attention to the Draft International Code of Conduct on the Transfer of Technology, which defines technology transfer as 'the transfer of systematic knowledge for the manufacture of a product, for the application of a process or the rendering of a service and does not extend to the mere sale or lease of goods'. In this chapter, Ncube insists that the interconnectedness of innovation and intellectual property calls for a deepened re-evaluation of how IP is used and how much this aids the advancement of innovation.

Chapter 5, which I consider the most important chapter of the book, not only demonstrates how openness can be leveraged to meet the challenges facing society but also argues why it is necessary:

As a way to contextualize ... IP and openness, it is important to begin by expressly linking IP with sustainable development goals as articulated in the SDGs and Agenda 2063, which have been reprised in section 1.5

#### 4 Book review

above. Inclusive and equitable development are major themes in IP generally, with much focus on the creation of IP frameworks that enable and support innovation in all sectors, including marginalized constituencies such as the informal sector, women and indigenous peoples and local communities.<sup>3</sup>

The breaking down of SDGs in their contexts as they relate to people, prosperity and the planet is the fulcrum of the book's argument that the openness paradigm should be central to how we approach intellectual property frameworks and sustainable development. The chapter defines the openness paradigm by listing the four dimensions that underpin openness, and these are (1) ideological, (2) legal, (3) technical, and (4) operational. Furthermore, it appreciates that there are four ideological underpinnings of openness, and these are (1) social justice imperatives, (2) sustainable development, (3) human development, and (4) human rights.

Some practical examples for enacting the ideals of the openness paradigm include open access, open data, open collaborative innovation, open research, open science, and open-source software.

Chapter 6, which concludes the book, discusses continental intellectual property instruments and institutions. As a point of entry, the chapter notes that the AU has been largely inactive in the domain of intellectual property. The AU passed the Continental Strategy on GIs in 2017, the Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and the Regulation of Access to Biological Resources in 2000. None of these instruments have binding force. The chapter looks unto the AfCFTA with optimism, noting that its varied principles appear to be pointed and action enthused.

### 3 Concluding remarks

One lesson that can be learnt from the coronavirus pandemic is that there remains a constant need to rethink the global intellectual property framework, especially as it relates to its flexibility where access to essential medicine or vaccines is concerned. This need is much more immediate in the context of Africa, especially when considering the continent's developing nature and its political and economic implications.

Intellectual property has always been an essential subject in the context of Africa, especially given Africa's lived history of slavery, colonialism, coloniality and persisting neo-colonialism. The subject is essential because intellectual property rights, unlike other rights in

3 CB Ncube *Science, technology & innovation and intellectual property: Leveraging openness for sustainable development in Africa* (2021) at 119

private or commercial law, directly impact the growth and development of collective society (public interest).

History lends perspective, and in this instance, it allows us to appreciate that no state that is serious about socio-economic development would neglect or ignore its responsibility to actively shape and guide intellectual property law frameworks or legislation. The book's argument could have been enhanced by a stronger critique of the colonial and capitalist chassis upon which the global intellectual property regime is currently based. Such a critique could have highlighted the urgent need to rescue intellectual property rights discourse from capitalist aspirations or desires. To be sure, it is apt to surmise that intellectual property rights development must never be left in the hands of the private or corporate sector. Instead, all stakeholders must have a role in shaping intellectual property rights discourse, and the state must be at the helm.

This book comprehensively demonstrates the intricate relationship between intellectual property, science, technology and innovation. One of the book's central arguments or suppositions is that the openness paradigm is the most logical path African lawmakers should embrace in their approach to intellectual property design.

Having carefully punctuated the discourse on science, technology, innovation, intellectual property and sustainable development, Ncube must be commended for the book's impeccable definitional clarity, thorough unpacking of instruments, and exposition of treaties that govern intellectual property globally, and specifically on the continent of Africa. Lawmakers, students, intellectual property law practitioners, university academics (including IP managers), and members of civil society would benefit immensely from the insights proffered in this book.