

17 Sustainable Development through a Cross-Regional Research Partnership

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Introduction

Most studies and explorations of public–private partnership (PPP) models focus on specific albeit diverse sectors targeting solutions for cross-border developmental challenges. Studies tend to address problems that classical market economic frameworks and prevailing institutional arrangements, including intellectual property (IP) rights, are unable to fix. For example, they examine the role of PPP in product development, distribution, and procurement, in health,¹ showcasing their relevance, impact, and justification.² However, perhaps more germane than the operation of PPPs in specifically enumerated sectors such as global health is their suitability for tackling and negotiating the production, distribution, and/or delivery of the benefits of knowledge as a global public good in the context of what Keith Maskus and Jerome Reichman describe as the “emerging transnational system of innovation.”³

Rarely explored is how research networks and partnerships not directly associated with specific public interest intervention or product and service delivery for development can help better inform and improve the design of PPPs or partnership building generally. The experience of a research network and partnership strategy dedicated to both empirical and theoretical interrogation of knowledge production and governance dynamics can make a useful contribution to emerging perspectives on collaborative partnerships in general (or even PPPs more specifically) in the areas of IP and knowledge governance.

Accordingly, this chapter examines the Open African Innovation Research (Open AIR) network as a unique cross-regional research platform. It links empirical and theoretical perspectives on PPPs to the key operational elements of Open AIR, including

¹ See Chidi Oguamanam, *Patents and Pharmaceutical R&D: Consolidating Public-Private Partnership Approach to Global Public Health Crisis*, 13 J. WORLD INTELL. PROP. 4, 556–580 (2010).

² See Oxfam Briefing Paper, *Ending the R&D Crisis in Public Health: Promoting Pro-Poor Medical Innovation*, Oxfam International (2008), www.oxfam.org/sites/www.oxfam.org/files/file_attachments/bp122-randd-crisis-public-health_3.pdf [hereinafter R&D Crisis in Public Health]; Taiwo A. Oriola, *Strong Medicines: Patents, Markets, and Policy Challenges for Managing Diseases and Affordable Prescription Drugs*, 7 CAN. J. L. & TECH. 1, 57–123 (2008) [hereinafter Oriola].

³ Keith K. Maskus & Jerome H. Reichman, *The Globalization of Private Knowledge Good and Privatization of Global Public Goods*, 7 J. Int'l Econ. L. 2, 279–320 (2004) [hereinafter Maskus & Reichman]; See also Joseph E. Stiglitz, *Knowledge as a Global Public Good*, P2PF WIKI (September 15, 2007), https://wiki.p2pfoundation.net/Knowledge_as_a_Global_Public_Good.

its core driving factors relevant to the development gap associated with IP and knowledge governance in Africa. In this regard, the chapter finds that insights from Open AIR's construct and research findings, which flow from its activities as a research-driven rather than a product-driven initiative, can shine light on how PPPs (or cross-sector partnerships in general) can be better exploited and reengineered beyond their current and ad hoc interventionist outlook, in order to make them serve as effective sustainable development vehicles.

The chapter begins with a contextualization of PPPs in global governance generally and their evolution within sustainable development efforts. It then introduces Open AIR. The following section links various elements of Open AIR to potential characteristics of PPPs, emphasizing six features that have resulted in successful interventions: Cross-sector representation; novel approaches to problem-solving; cross-regional approaches; complex methods; networking of networks; interdisciplinary analysis; and a shared vision. The chapter then discusses the nexus of partnerships such as Open AIR to sustainable development, and reflects on policy ramifications, practical lessons, and limitations of the cross-regional research partnership model applicable to development PPPs.

I Contextualizing PPPs for Development

From practical, policy, and theoretical perspectives, there is a conventional understanding of the role of PPPs.⁴ They serve as special purpose vehicles for deployment of resources, expertise, technology, knowledge, and various other capabilities that neither the private nor the public sector, or other participants or stakeholders in the partnerships can adequately provide alone.⁵ With specific regard to the context of global knowledge governance and its interface with IP rights, PPPs serve as strategic instruments for efficient mobilization of resources to solve R&D problems, promote innovation, and minimize associated transaction costs.

PPP were proposed as “tools for good governance” in the 1990s, and gained prominence in international relations (IR) literature in the early 2000s.⁶ However, PPPs have been understudied with gaps in the literature, stemming from the lack of a cohesive definition, differing schools of thought surrounding the structure and organization of PPPs, and a lack of research to support the hypothesis that PPPs can effectively contribute to the broad issues these partnerships seek to address. Research is only now beginning to recognize this lacuna and explore these issues in more depth.⁷

Public–private partnerships can be defined as:

any formal relationship or arrangement over a fixed-term/indefinite period of time, between public and private actors, where both sides interact in the decision making

⁴ See Frank Hartwich et al., *FOOD SECURITY IN PRACTICE: BUILDING PUBLIC-PRIVATE PARTNERSHIP FOR AGRICULTURAL INNOVATION* (2008).

⁵ *Id.*

⁶ David J. Maurasse, *STRATEGIC PUBLIC PRIVATE PARTNERSHIPS: INNOVATION AND DEVELOPMENT 2* (2013).

⁷ Rhys Andrews, Marc Esteve, & Tamyko Ysa, *Public-private joint ventures: mixing oil and water?* 35 *PUB. MONEY & MGMT* 4, 265 (2015); Tanja A. Börzel & Thomas Risse (2005). *Public-Private Partnerships. Effective and Legitimate Tools of Transnational Governance?* in *COMPLEX SOVEREIGNTY: ON THE RECONSTITUTION OF POLITICAL AUTHORITY IN THE 21ST CENTURY 1* (Edgar Grande & Louis W Pauly eds., 2012).

process, and co-invest scarce resources such as money, personnel, facility and information in order to achieve specific objectives in the area of science, technology and innovation.⁸

Likewise, PPPs can be defined as “collaborative engagements between public, private and not-for-profit actors or institutions.”⁹ While both definitions mention the cooperative process between actors, the second more recent and less formalized approach includes engagement with civil society represented by nongovernmental or the nonprofit sector.¹⁰ This sector can include “nongovernmental organizations (NGOs) at the community level to large established anchor institutions like universities.”¹¹ With such inclusion, a richer cross-sector collaboration is possible assisting in connecting and harnessing knowledge and creating a unique partnership to assist with developing strategies and tackling transnational issues such as sustainable development. This transnational approach is possible not only because of the unique actors that constitute PPPs, but rather because these partnerships have emerged within “the context of globalization,” and have been forged across territorial boundaries.¹² Benefits that derive from these partnerships stem from the “pooling of resources”¹³ that occurs between these various sectors and actors. However, such capacity building is only sustained based on relationships of trust and reciprocity, forming a unique “network” organization.¹⁴ Without trust or reciprocity, which the partnership seeks to foster, the exchange of information and resources can be unreliable.

PPPs often share features that include transnationality, public policy objectives, and a network structure.¹⁵ However, not all of the partnerships are created equally, nor do they emerge uniformly across the globe. Partnerships may be more easily forged and/or maintained in certain parts of the world given particular factors (i.e., political, social, and economic) that facilitate their development and contribute to their success in the long term.¹⁶ Although demand for a PPP may be significant in one country or area, the partnership may not emerge simply based on this desire. Instead, one study found that successful partnerships arise in areas that are “already heavily institutionalized and regulated” with a keen eye toward appropriate implementation and oversight.¹⁷ With this

⁸ Catherine Moreddu, PUBLIC-PRIVATE PARTNERSHIPS FOR AGRICULTURAL INNOVATION: LESSONS FROM RECENT EXPERIENCES 8 (2016) (citing OECD (2004) “Public/Private Partnerships for Innovations” in OECD Science, Technology and Industry Outlook, 2004, OECD Publishing Paris) http://dx.doi.org/10.1787/sti_outlook-2004-5-en.

⁹ William P. Boland & Peter W. B. Phillips, *An Analysis of the Hidden Variables Influencing Challenges and Opportunities of Implementing R&D and Value Chain Agricultural Public-Private Partnerships in the Developing World* (2012) (unpublished manuscript) available at www.value-chains.org/dyn/bds/docs/831/Boland_ValueChainPPPs_Final.pdf.

¹⁰ PUBLIC-PRIVATE PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: EMERGENCE, INFLUENCE AND LEGITIMACY xi (Philipp H. Pattberg et al. eds., 2012).

¹¹ *Id.*

¹² Sander Chan & Christina Müller, *Explaining the Geographic, Thematic and Organization Differentiation of Partnerships for Sustainable Development* in PUBLIC-PRIVATE PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: EMERGENCE, INFLUENCE AND LEGITIMACY, 44–66, 49 (Philipp H. Pattberg et al. eds., 2012).

¹³ David J. Maurasse, *supra* note 6, at 7.

¹⁴ Lea Stradtler, *Designing public-private partnerships for development*, 15 Management 1, 78 (2012).

¹⁵ David J. Maurasse, *supra* note 6, at 3.

¹⁶ *Supra* note 12.

¹⁷ Philipp H. Pattberg et al., *Conclusions: Partnerships for Sustainable Development*, in PUBLIC-PRIVATE PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: EMERGENCE, INFLUENCE AND LEGITIMACY 241–242 (Philipp H. Pattberg et al. eds., 2012).

in mind an area that may require more attention is examining how to encourage adequate implementation of the partnership goals within areas where there are limitations in public/private or nonprofit capacity.

PPPs' contribution in reducing transaction costs is a crucial adjunct to the practical realization of PPPs' core mission in the area of IP and knowledge governance in general. Mitigated transaction costs subsidize knowledge production and ensure optimal access to the benefits of innovation, especially by the most vulnerable. Hence, PPPs function as a bridge between private sector-driven hard-edged knowledge production and protection that results in sub-optimal access to innovation and an inclusive public sector-mediated framework that allows for optimal dissemination of benefits of innovation, which in turn has positive effect on development. In a way, a PPP-mediated framework for concerted generation of innovation and delivery of its benefits has the potential to enhance the realization of innovation as a public good in which the instrumentalist mission of intellectual property is advanced in less contentious ways.

Increasingly, PPPs schemes are being deployed in strategic sectors as practical, policy, and theoretical models of R&D, innovation, and social intervention over healthcare delivery, access to essential medicines and vaccines, new technologies and their development, as well as seeds, propagating materials or useful genetic resources for food and agriculture.¹⁸ Perhaps, there is no more visible practical and policy strategies for addressing development gaps¹⁹ and inequity on multi-sectoral levels in the last century than the PPP models and their dynamic configurations, which now includes various categories of actors such as nonprofit and civil society entities.²⁰ Similarly, not many competitive or imaginative institutional designs for fixing the public interest deficits at the intersection of IP and access to innovation by the most vulnerable exist than the possibilities offered by diverse PPP models.

However, the PPP option is hardly a foolproof public policy intervention strategy.²¹ Often PPP models may provide opportunity for private sector capture of the public sector, especially where a PPP is deployed in the execution of mega-infrastructure building, design, and concession projects in partnership with corrupt and weak public partners. This is particularly problematic in less developed countries. Also, the issues of 'equity' and power alignment among partners, the conceptualization of partnerships, and the determination of R&D priorities of PPPs continue to be matters of concern for their effectiveness and their public interest orientations.²²

¹⁸ See *R&D Crisis in Public Health*, *supra* note 2; International Food Policy Research Institute's (IFPRI), *A Database of Public-Private Partnerships in (PPP) in the CGIAR, 2004*, Harvard Dataverse (2015), available at <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/YHDKKR>; See also Chidi Oguamanam, *supra* note 1.

¹⁹ See Uche Ohia, *Infrastructural Concession in Nigeria: Challenges and Opportunities*, NIGERIANS IN AMERICA (August 16, 2011), available at www.nigeriansinamerica.com/infrastructure-concession-in-nigeria-challenges-and-opportunities/; See also May Agbamuche-Mbu, *PPPs Key to Our Desired Infrastructure Development*, THIS DAY (September 13, 2016), available at www.thisdaylive.com/index.php/2016/09/13/ppps-key-to-our-desired-infrastructure-development/.

²⁰ For example, of categories of key actors in leading global public health interventionist PPPs, see *R&D Crisis in Public Health*, *supra* note 2.

²¹ See, e.g., Oxfam, *How a Public-Private Healthcare Partnership Threatens to Bankrupt Lesotho*, OXFAM INTERNATIONAL (April 7, 2014), available at www.oxfam.org/en/multimedia/video/2014-how-public-private-healthcare-partnership-threatens-bankrupt-lesotho.

²² See Susan Bragdon, *Reinvigorating the Public Sector: The Case of Food Security, Small-Scale Farmers, Trade and Intellectual Property Rules* (Transnational Institute (TNI), Colloquium Paper No 64, 2016).

Within the United Nations framework, the organization, governance, monitoring, operational modalities of PPPs and the balancing of their development or public interest objectives with the private interests of stakeholders are only evolving and have yet to mature.²³ Certainly, despite gaining traction, PPPs are still embryonic experimentations in development circles and in global governance.²⁴ PPPs are susceptible to abuse in era of dwindling resources, as governments and development agencies uncritically and conveniently farm out their core responsibilities. The advancement of private agendas at public expense is an inadvertent and possibly inevitable consequence of an uncritical approach to PPPs. Situations like this make continued careful scrutiny of PPPs imperative, and highlight the need to take critics and criticisms seriously, in order to make improvements going forward.²⁵

Goal 8 of the 2005 United Nations Millennium Development Goals (MDGs) enunciated the concept of global partnerships for development.²⁶ Specifically, the MDGs targeted and promoted public sector cooperation with the private sector to ensure affordable access to essential medicines and benefits of new technologies with special emphasis on information and communication technologies (ICTs).²⁷ The 2015 United Nations Sustainable Development Goals (SDGs)²⁸ seeks to consolidate the trend through revitalizing and mobilizing global partnerships to support sustainable development. According to the UN,

A successful sustainable development agenda requires partnerships between governments, the private sector and civil society. These inclusive partnerships built upon principles and values, *a shared vision, and shared goals* that place people and the planet at the centre, are needed at the global, regional, national and local level.²⁹

As the UN strengthens the concept of global partnerships as strategic instrument for sustainable development, there is a strong need to explore other ways of imagining partnerships for development via the PPP construct.

II Open AIR: A Peek

Open AIR is a network of dynamic partnerships between academic institutions, national government agencies, philanthropic foundations, civil society groups, intergovernmental organizations, and other unconventional actors.³⁰ Although these combinations of actors

²³ Barbara Adam & Jen Martens, *Partnerships and 2030 Agenda: Time to Reconsider their Role in Implementation*, GLOBAL POLICY FORUM (May 2016), available at www.globalpolicywatch.org/wp-content/uploads/2016/05/On-Partnerships-GPF-input-to-discussion.pdf.

²⁴ *Id.* See also Michael J. Hutton & Kent Schroeder, *Partnership Theory and Practice: Time for a New Paradigm*, 28 CAN. J. DEV. STUDIES 1, 157–162 (2007).

²⁵ *Id.*

²⁶ See UNITED NATIONS MILLENNIUM DEVELOPMENT GOALS, U.N., available at www.un.org/millenniumgoals/ (last visited Oct. 18, 2016).

²⁷ *Id.*

²⁸ *Id.*

²⁹ See *Goal 17: Revitalize the Global Partnership for Sustainable Development*, U.N., available at www.un.org/sustainabledevelopment/globalpartnerships/ (last visited Oct. 18, 2016) [emphasis supplied].

³⁰ For more insights on Open AIR, see OPEN AIR: AFRICAN INNOVATION RESEARCH, available at www.openair.org.za/about-us/ (last visited Oct 18, 2016).

do not directly implicate the private sector in the conventional sense of “for profit” enterprises, they do include nonprofit entities that straddle the private and public spaces in their operations. The network, which we have been privileged to midwife with others, began just before 2007 as a research project aiming to compare the copyright laws, policies, and practices of eight countries in Africa and how they impact on access to educational materials.³¹ It expanded and metamorphosed into its current name around 2011 to include researchers in fourteen African countries investigating other areas of IP and innovation from multiple disciplinary perspectives.³²

Less than a decade after its inception, Open AIR has created a pan-African and global partnership providing a distinct voice to researchers from a continent consistently marginalized in discussions of global knowledge governance. The partnerships span a continent now straddled between the phenomenal opportunity and daunting circumstance of mapping its developmental aspirations within the innovation-driven landscape of the third industrial revolution and the emerging fourth industrial revolution.³³ In 2015, the network took on new challenges by both broadening and deepening connections between researchers across the developed-developing-world divide. Open AIR now contributes to making Africa the centre of attention in a cross-regional network involving multisector partners in North America, Europe and elsewhere, especially Canada.

The Open AIR partnership’s current goal is to help explore a problem at the heart of competing visions of the global knowledge governance systems: how to reconcile tensions between appropriation and access, excluding and sharing, and competing and collaborating. Its core aims are to create a better understanding of the ways knowledge-based businesses can scale up to take advantage of global opportunities while simultaneously ensuring that the benefits of innovation are shared inclusively throughout society, more so amongst its most vulnerable. Open AIR’s Afrocentric focus calls attention to the importance and sensitivity of context in the making of IP and knowledge governance policy for sustainable development.³⁴

Primarily, the Open AIR partnership adopts an empirical approach to obtaining social, economic, cultural, and political insights over developmental issues linked to IP on the African continent. As a unique form of partnership, it attempts to map Africa or the African contexts into the dynamics of the intersection between innovation and intellectual property from a fundamentally development perspective. The research is an initiative that deploys contextual and on-the-ground case studies to provide insights that confront two vastly opposing, but hardly tested, views on the influential role of IP rights in relation to innovation, creativity, and development on the African contexts. One such view is that IP protection is a *sine qua non* to innovation and development.³⁵ The converse is that rather than promoting innovation, creativity, and development, IP constitutes an

³¹ See ACCESS TO KNOWLEDGE IN AFRICA: THE ROLE OF COPYRIGHT (Chris Armstrong et al. eds., 2010).

³² *Id.*

³³ Jeremy Rifkin, THE THIRD INDUSTRIAL REVOLUTION: HOW LATERAL POWER IS TRANSFORMING ENERGY, THE ECONOMY AND THE WORLD (2008). The concept of the third industrial revolution is fast becoming obsolete as the evolution of artificial intelligence is now associated as catalytic of the fourth industrial revolution.

³⁴ See, generally, Jeremy de Beer et al. eds., INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMICS IN AFRICA (2015).

³⁵ *Id.*

impediment to free exchange of ideas, and other critical ingredients necessary for the promotion of innovation and creativity, and ultimately development.³⁶

The truth may lie somewhere between the two extremes with accommodation given for specific sectoral and contextual characteristics of the interaction between different IP regimes and innovation, creativity, and development in diverse socioeconomic and cultural contexts.³⁷ Despite the undergirding logic of these polarized views and their persistence, there is still much to be known about how IP dynamics “do or could influence innovation and creativity as a means of development.”³⁸

Yet from the middle of the twentieth century, the dominant and most influential narrative of IP is one that supports stronger IP protection as the panacea for the challenges of development.³⁹ As an integral part of the global trade regime, that approach has yielded, in its wake, intense privatization of knowledge and innovation as global public goods.⁴⁰ As a consequence, at a time of unprecedented innovation in human history, IP and knowledge governance frameworks are perceived to be complicit in widening access gaps that, in turn, foster sub-optimal impact of innovation on society, especially amongst the most vulnerable. In the late twentieth century a combination of factors, including the embedded and demonstrable capacity of digital technology for collaborative and networked innovation and creativity, unraveled unprecedented pathways to new potentials. But hurried and harried attempts to use IP to police content production in cyberspace unmasked, amplified, and reenforced the potential of IP to constrain creativity and innovation.⁴¹ That heavy-handed privatization and enforcement has helped in no small a measure to support alternative and countervailing narratives around openness and collaboration alongside overzealous IP protection regimes.⁴²

Despite the strides toward contested and balanced theories of IP and its interface with development,⁴³ international IP policy space and institutions tend to continue to operate around the dominant narrative, though there have been significant efforts and initiatives – such as the WIPO Development Agenda – seeking to inject a more development-oriented approach to IP in this space. Against that backdrop, patents, copyrights, and other familiar formal checklists are used to rank the innovative and creative profile of countries.⁴⁴

³⁶ *Id.*

³⁷ *Id.*

³⁸ See de Beer et al., *supra* note 34, at 2.

³⁹ See generally Peter Drahos and John Braithwaite, *INFORMATION FEUDALISM: WHO OWNS THE KNOWLEDGE ECONOMY?* (2002).

⁴⁰ See generally *INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME* (Keith Maskus & Jerome Reichman eds., 2005).

⁴¹ One of the earliest attempts by a major industrialized country, namely, the United States, to extend intellectual property rights protection to cyberspace via the Digital Millennium Copyright Act (DMCA) sparked critical global debate over the potential of intellectual property to undermine creativity on the internet platform resulting in strong interest over a constructive and balanced approach. The DMCA was an attempt to implement two relevant international treaties: WIPO Copyright Treaty (WCT), Dec. 20, 1996, TRT/WCT/001, and the WIPO Performances and Phonograms Treaty (WPPT) Dec. 20, 1996, TRT/WPPT/001.

⁴² See generally Jeremy de Beer and Sara Bannerman, *Access to Knowledge as a New Paradigm for Research on ICTs and Intellectual Property Rights*, in *CONNECTING ICTs TO DEVELOPMENT: THE IDRC EXPERIENCE* (H. Emdon, L. Elder, B. Petrazzini and R. Fuchs, eds., 2013).

⁴³ See generally Rami M. Olwan, *INTELLECTUAL PROPERTY AND DEVELOPMENT: THEORY AND PRACTICE* (2013).

⁴⁴ See *Intellectual Property Statistics*, WIPO (2015), available at www.wipo.int/ipstats/en/.

A country's ability to appropriate the benefits of the free market economy is tied to the extent it protects conventional IP rights.⁴⁵ This standard form of IP protection has limited accommodation for social, economic, political, cultural, and other contextual variables. It is a state of affairs totally insensitive and evidently exclusionary to the realities of the African countries. Communities of informal sector actors who thrive in the practice of collaborative knowledge production largely drive innovation on the continent. The standard form of check-listing of specific types of IPs generated is obviously ill suited to and therefore incapable of capturing the dynamics of creativity and innovation that happen on the continent. The irony is that while this artificial matrix relegates African countries to the lowest rung of the innovation, creativity, and development scale,⁴⁶ those countries remain under immense economic and political pressure to adopt an IP system that has difficulty grappling with their local contexts and contingencies.⁴⁷

Within the global IP and knowledge governance framework, African countries are neither reckoned nor recognized as innovative. Yet "African policy-makers continue to be offered relatively stale, globalist protection and harmonization-centric IP narratives" with little regard "to nationally or locally contextualized IP realities and imperatives."⁴⁸ Setting the cart before the horse, attempts to shore up African IP credentials have focused on formal structures such as laws, IP governance institutions, and bureaucracy that mainly service external interests with little attention paid inwardly to the nature of innovation and creativity and knowledge governance frameworks in Africa.⁴⁹

It is logically tenable that the PPP or other partnership models can be adapted to pull together resources from diverse partners, and to leverage often-untapped local and African diaspora networks of interdisciplinary research expertise. This strategy channels or nudges PPPs or partnership making in a direction that enhances insights on the gaps in international IP as it affects innovation and creativity on the continent and grounds the instrumentality of PPPs outside its conventional application to focus on the policy deficits in the governance of knowledge and innovation. The Open AIR partnership looks at the practical dynamic of innovation and creativity in Africa as an important step to understand what forms of knowledge governance framework would best facilitate, capture, and value the innovation that happens on the continent, as a crucial complement to innovation-driven sustainable development.

III Open AIR as a Partnership Construct

Given the prevailing gap on African voices, realities, and representations in global IP and knowledge governance environment, Open AIR's experience can help inform how to

⁴⁵ See Chidi Oguamanam, *Open Innovation in Plant Genetic Resources for Food and Agriculture*, 13 CHI. KENT J. INTELL. PROP. 1, 11–50 (2013).

⁴⁶ See e.g., Chidi Oguamanam, *Breeding Apples for Oranges: Africa's Misplaced Priority over Plant Breeders' Rights* 18 J OF WORLD INTELLECTUAL PROPERTY 5, 165–195 (2015).

⁴⁷ *Id.*

⁴⁸ See Jeremy de Beer et al., *supra* note 34, at 6–7.

⁴⁹ See generally Jeremy de Beer & Chidi Oguamanam, *Intellectual Property Training and Education: A Development Perspective*, International Centre for Trade and Sustainable Development (2010) www.ictsd.org/downloads/2010/11/iptrainingandeducation.pdf; see also THE WORLD INTELLECTUAL PROPERTY ORGANIZATION: RESURGENCE AND THE DEVELOPMENT AGENDA (Christopher May ed., 2007)

address this gap in the existing landscape of PPPs. The orthodox (for want of a better expression) approach of using PPPs to deliver products of innovation as global public goods is essentially an *ad hoc* strategy that does not tackle the twisted and top down nature of IP and global knowledge governance in any measured manner. The deliberate composition of Open AIR as a research platform naturally situates it, for the most part, on a grounded theoretical and introspective interrogation of the interface of IP and innovation in the African context. Open AIR's "case study method helps to humanize otherwise abstract information and yields understanding into complex systems of interacting variables"⁵⁰ that capture the innovation and creativity that happen in mainly informal and quasi-formal contexts in Africa.

Open AIR's partnership construct unfolds in multiple respects, explored in more detail later in this chapter.

A *Cross-Sector Representation*

First, and most obvious, is the composition of institutional partners and sponsors, which, as indicated earlier, includes academic institutions, national government agencies, philanthropic foundations, civil society groups, intergovernmental organizations, and other unconventional actors. The diversity of the institutional and individual memberships of the partnership is important to inclusively capture the complex dynamic of IP and knowledge governance and its interface with innovation, creativity, and development in Africa.

Open AIR is a form of a cross-regional research consortium, with significant representation of public institutions. The private sector presence is mostly indirect through privately operated academic and research institutional affiliates, including non-governmental organizations, for-profit and not-for-profit advisory groups, consultancies, and think tanks. The key point is that Open AIR reflects a unique combination of state and non-state actors and institutions collaborating to achieve common objectives.

Open AIR consists of mainly African-based and African diaspora and their North American and other geopolitical partners across a diverse range of disciplinary backgrounds. Such an aggregation of grounded human resources with natural familiarity and association with Africa is a departure from usual made-abroad, top-down compliance, and implementation model of IP prescription for the continent.⁵¹

B *Novel Approach to Problem Solving*

Second, the private sector involvement in Open AIR is indirect, passive, and detached; it thus allows for independent implementation of research in accordance with scholarly tradition. Again, unlike conventional PPPs, Open AIR is not focused on collaborative infrastructure and product development, supply, marketing, or distribution that focuses in one core area designed to fill a development gap or to address a glaring IP-induced social inequity. However, Open AIR's construct addresses both theoretical and practical fissures in IP and the global governance of knowledge that is at the root of a wide range of development gaps that impact negatively on the African continent.

⁵⁰ See Jeremy de Beer et al., *supra* note 34, at 13.

⁵¹ See *id.*

If Africa's unique contributions to innovation and the on-the-ground cultural, social, economic, and even political contexts in which knowledge produced on the continent are captured and supported, the continent and its peoples are empowered as important actors in innovation and knowledge governance for sustainable development. However, like most PPPs, the Open AIR research partnership is an interventionist project, in that it is engaged in action research designed to have real-world impacts. Perhaps more importantly, its emphasis lies on a unique form of innovation capacity-building, one in which sustainable development is central.⁵²

As already indicated, the dominant narratives of IP and knowledge governance favour exclusionary norms and stronger proprietary protection. Formalistic metrics for measuring innovation and creativity are insensitive to African realities. The situation alienates a critical and very creative segment of the human family, resulting in a prescriptive imposition of unsuitable and suspect knowledge protection formulae. Not only does this approach remain antithetical to the continent's capacity for self-determination in knowledge governance for sustainable development, it also deprives the rest of the world of lessons that can be learned from the continent on the subject of knowledge governance. As a multi-stakeholder partnership that has mobilized strategic resources and expertise on African innovation and creativity, Open AIR expands the scope for sharing knowledge necessary to support sustainable development goals.

C A Cross-Regional Approach

The third element of Open AIR as a cross-regional construct is its international outlook. IP and global knowledge governance is a subject of regional and global interest,⁵³ one that requires corresponding consciousness and expertise that the Open AIR network is cultivating. Open AIR recognizes that neither Africa, nor any other continent for that manner, can be engaged in isolation, more so over IP, knowledge governance, and development. After all, recent expansion of IP and its translation in development are incidences of the new global knowledge-based economy in which African innovation, creativity, and development are intertwined. Since the coming into effect of the TRIPS Agreement in 1995 under the WTO framework and other cognate international agreements and policies, global policies on IP and knowledge have continued to exert significant influence at regional and national levels in determined pursuit of international harmonization and a pull toward differentiation.⁵⁴ The cross-regional and broader constitution of Open AIR makes it a necessary vehicle to engage a global phenomenon with a regional focus in the manner other PPPs strategies are conventionally deployed, such as in the flagship contexts of access to medicines and new technologies.⁵⁵

⁵² On the intersections of capacity-building, development, and human rights see Amartya Sen, *DEVELOPMENT AS FREEDOM* (1999).

⁵³ Madhavi Sunder, *IP3*, 59 *STANFORD L. REV.* 2, 257 (2006).

⁵⁴ Graham Dutfield and Uma Susthersanen, *Harmonization or Differentiation in Intellectual Property Protection? The Role of History* 23 *PROMETHEUS* 2, 131–147 (2005); but see Maskus & Reichman, *supra* note 3.

⁵⁵ See *R&D Crisis in Public Health*, *supra* note 2; Oriola, *supra* note 2; see also U.N. *MILLENNIUM DEVELOPMENT GOALS*, *supra* note 26.

IV Complex Questions and Methods

The fourth feature of Open AIR relates to the inherent complexity of the partnership's subject matter(s). IP and knowledge governance, and its interface with creativity innovation for sustainable development in the African contexts denote a practical, policy, and theoretical research complex that no one entity or stakeholder is equipped to elucidate with any credibility. Not many subject matters engage such complexities and contexts more than IP and knowledge governance in the cultural, social, economic, and political contexts of Africa. Similarly, without foreclosing unexplored options, not many models of inquiry are better suited to grapple with the issues than a cross-regional and open-ended multidisciplinary and interdisciplinary form of research program.

Open AIR takes on a complex practical, theoretical, and policy challenge, namely the alienation or exclusion of, arguably, one of the world's most creative civilizations and peoples from the IP narrative. In seeking to contribute towards asserting Africa into the IP and knowledge governance framework through empirical case studies, grounded theory building, and action-oriented research interventions, Open AIR explores how extant or future IP systems can advance innovation and creativity that drive development on the continent. This broadly framed inquiry logically provides the opportunity to explore and understand how African creators and innovators react, respond to or work around conventional IP frameworks and embedded pressures. As well, Open AIR examines the interplay of the externally prescribed exclusive IP ideology with the culturally oriented collaborative, open, and inclusive knowledge production that happens mainly within Africa's formal-informal dynamic of knowledge production and governance.⁵⁶

This form of complex inquiry not only focuses on Africa with cautious regard to the continent's constitutive diversity and complexity. It also engages IP in its cross-regime and cross-sector, and equally complex contextual unraveling⁵⁷ on the African continent. Like a conventional PPP, the research agenda is one that transcends the capacity of any one entity, whether public, private, or other, to grapple.

It is, however, not claimed that Open AIR as presently constituted, or any research consortium for that mater, is in a position to exhaust the open-ended and multifaceted layers of dynamic issues that constitute its *raison d'être*. Rather, Open AIR symbolizes the instrumentality of cross-regional research as an important and unique typology with practical, theoretical, and policy ramifications, in the present case, for IP and knowledge governance and its interface with development.

V Networking of Networks

The fifth feature of Open AIR is the networked model, which it has since developed through strategic recruitments and integration of a diverse range of nodes, including scholars of various levels and categories. Private sector, public sector, and civil society

⁵⁶ See Dick Kawooya, *Informal-Formal Sector Interactions in Automotive Engineering Kampala*, in INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMIC IN AFRICA 56–76 (2015).

⁵⁷ See Laurence R. Helfer, *Regime Shifting: The TRIPs Agreement and New Dynamics of International Intellectual Property Making*, 29 YALE J. INT'L L. 1 (2004); see also Peter K. Yu, *International Enclosure, the Regime Complex and Intellectual Property Schizophrenia* Mich. L. Rev. 1–33 (2007); see generally, Chidi Oguamanam, INTELLECTUAL PROPERTY IN GLOBAL GOVERNANCE: A DEVELOPMENT QUESTION (2012).

actors as well as resource persons, public/government officials, and collaborators, are all engaged in various capacities in the partnership. Already, we have alluded to the potential or natural morphing of Open AIR in a manner and direction akin to a network of networks.

As Open AIR grows its experience in complex knowledge governance, it continues to make and attract overtures with related research partnerships, building strategic connections and linkages akin to network of networks grounded in a unique partnership framework. For one example, in the area of open data-driven innovation, Open AIR has engaged with the GODAN network, a PPP named for its work on “global open data in agriculture and nutrition.”⁵⁸ Through GODAN, Open AIR is able to engage organizations ranging from the UN’s Food and Agriculture Organization (FAO), to the Consultative Group of International Agricultural Research Centers, now officially known as CGIAR, to the multinational agrochemical company Syngenta.⁵⁹ On the topic of human rights, IP, and access to medicines, for example, Open AIR has partnered with the Open Society Foundations (OSF) to create the ASKJustice initiative, “African Scholars for Knowledge Justice.”⁶⁰ Because of its orientation and dynamism, Open AIR is able to intersect and engage with similar organizations that share common values.

As a crucial foundation of the network strategy, Open AIR leverages the African diaspora and expertise in various fields. Admittedly, Open AIR is not the first or only partnership to tap on the African diaspora as a powerful bridging tool for development and other objectives.⁶¹ However, leveraging the African diaspora serves multiple purposes including, of course, capacity building. But more importantly, it enhances the integrity and legitimacy of grounded and empirical approach to exploring African experiences with IP as opposed to externally driven initiatives and top-down formations that are distanced from Africa’s lived experience.

As well, the diaspora appeal supports the transition from the brain drain cliché to the phenomenon of “brain train.” The latter recognizes that the interaction between the diaspora and local residents is a positive mutual knowledge translation and knowledge sharing experience. That orientation ties neatly into Open AIR’s commitment to use empirical case studies to uncover some of what the rest can learn from Africa’s experience with IP and knowledge governance. It is, in a way, a departure from the extant pattern of unidirectional prescription of a top-down and uniform IP model as a panacea for Africa’s development problems.

The idea of multidirectional flow and exchange of knowledge in which African insights and experience on IP and knowledge governance are legitimately captured, and taken into consideration in policy formulation, is central to the Open AIR research partnership. Open AIR has continued to re-enforce that imperative through its empirical

⁵⁸ See *Global Open Data for Agriculture and Nutrition*, GODAN, available at www.godan.info (last visited Jun. 14, 2017).

⁵⁹ See Jeremy de Beer, *OWNERSHIP OF OPEN DATA: GOVERNANCE OPTIONS FOR AGRICULTURE AND NUTRITION* (2016).

⁶⁰ See ASKJustice, ASKJUSTICE RSS, available at www.ASKJustice.org (last visited Jun. 14, 2017).

⁶¹ See, e.g., the Carnegie Africa Diaspora Fellowship Program, which leverages African diaspora expertise to support capacity building in curriculum development, collaborative research, and graduate supervision to enhance the quality of higher education on the African continent. *CARNEGIE AFRICAN DIASPORA FELLOWSHIP PROGRAM*, IIE, available at www.iie.org/Programs/Carnegie-African-Diaspora-Fellowship-Program (last visited Oct. 18, 2016).

case studies and other opportunities within the network. In its latest phase of work, Open AIR has developed cross-regional exchanges of African and other students (both graduate and undergraduate), postdoctoral fellows, a special Open AIR new and emerging researcher group sub-network, and faculty to experience first hand collaborative research in African and other destinations in areas of shared interests under the Open AIR research program.

VI Interdisciplinary Analysis

Sixth, a natural and necessary aspect of the Open AIR is its interdisciplinary composition. The partnership actively supports resource persons and memberships from every possible disciplinary background with perspectives that help understand IP and knowledge governance in the African context. As IP and knowledge governance impact virtually every aspect of human life, the once arcane subject has since ceased to be the exclusive reserve of few disciplines,⁶² such as law and economics.

As such, any research partnership that focuses on the complex scope as outlined by the Open AIR program must of necessity not only include diverse disciplinary representations⁶³ but also ensure that the constitutive or participating disciplinary agents have the benefit of collaborative or interdisciplinary immersion and experience.⁶⁴ In addition, such research must be open to leveraging opportune and circumstantial partnerships, outreaches, and connections suited to collaboratively tackling innovation and knowledge governance for sustainable development.

VII A Shared Vision

Finally, like other forms of partnership, an essence of the Open AIR experience is the shared vision and objectives and a convergence among all partners on many counts. For example, partners are united in the hypothesis that the contemporary IP narrative and metrics for measuring innovation not only fails to capture but also alienates Africa's creativity and innovation. All Open AIR partners are convinced on the need for a grounded and empirical approach to investigating African experiences with the extant global IP regime and the need for practical insights into the forms of knowledge governance on the continent. Overall, partners understand that accommodation of context is an important policy building block for progressive IP and knowledge governance policy for sustainable development.

On a more theoretical plane, all categories of Open AIR partners including funders and host research institutions agree on the negative impact of overprotection of IP rights on creativity, innovation, and development. They share the view that despite the mainstream inclination toward stronger IP protection, the extent to which the IP environment influences innovation and creativity has yet to be rigorously interrogated and understood,

⁶² Peter K. Yu, *Reconceptualizing Intellectual Property in Human Rights Framework* 40 UC DAVIS L. REV. 3, 1039 (2007).

⁶³ See INTELLECTUAL PROPERTY FOR THE 21ST CENTURY: INTERDISCIPLINARY APPROACHES (Courtney B. Doagoo et al. eds., 2014).

⁶⁴ *Id.*

especially so in the context of the dynamics of collaborative and openness-oriented innovation in Africa.⁶⁵ As a guiding principle, Open AIR partners believe that more and continued inquiries would shed light on pluralistic knowledge governance models. These would include the known and the unknown models with opportunities for understanding how to integrate contexts and sectoral sensitivities or variables while striking a balance between openness or inclusiveness, and various exclusionary frameworks⁶⁶.

Like most development-oriented interventionist PPPs, the Open AIR research partnership is interested in how best to optimize the benefits of creativity and innovation to society without undermining the rights of creators. Many PPPs locate the solution to this overarching problem in often ad hoc or temporal bridging of access gaps through schemes that ship ready-made solutions such as the delivery of products and services for those who otherwise cannot afford them. It is a case of giving the fish while neglecting to provide for the manufacturing of the hook and failing to identify how best to optimally fish for creativity in a vast ocean of possibilities on the continent. Open AIR explores a number of African experiences with IP and knowledge governance from the collaborative dynamic of knowledge production. It is an approach that looks at the underlying issues of the practical, theoretical, and policy gaps in the global IP framework. Understanding the negative impact of those gaps in undermining creativity and innovation in Africa provides the foundation or urgency for a context-based framework for bridging access to innovation through grounded perspectives. The results of Open AIR's recent case studies suggest that the outcomes of these insights across sectoral contexts, for example, in music and entertainment,⁶⁷ crafts and trade,⁶⁸ traditional medicines,⁶⁹ as well as food and agriculture,⁷⁰ would be helpful to construct and implement more sustainable PPPs not only within the extant conventional models but also to generate new ones across sectoral variables. In all of the above listed sectors, multiple stakeholders (knowledge producers and the consuming public or communities, artists, artisans, traditional medicine practitioners, farmers, etc.) underscore the shared interest of knowledge producers and consumers as a collaborative and mutually reinforcing experience. Symbolically, Egyptian musicians, for example, prefer open distribution and dissemination of their music with little or no IP bottleneck to advance vibrant consumer experience which, in turn, has the effect of reinforcing the artist's professional, social, and economic value.⁷¹

⁶⁵ See Jeremy de Beer et al., *supra* note 34.

⁶⁶ Colleen Chien, *Opening the Patent System: Diffusionary Levers in Patent Law* 89 S. CALIF. L. REV. 793 (2016); see also Jeremy de Beer et al., *supra* note 34.

⁶⁷ See Nagla Rizk, *From De Facto Commons to Digital Commons? The Case of Egypt's Independent Music Industry*, in INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMIC IN AFRICA 171–202 (2015).

⁶⁸ See, e.g., Adebambo Adewopo et al., *A Consideration of Communal Trademarks for Nigerian Leather and Textile Products*, in INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMIC IN AFRICA 109–131 (2015).

⁶⁹ See Gino Cocchiario et al., *Consideration of a Legal "Trust" Model for the Kukula Healers' TK Commons*, in INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMIC IN AFRICA 151–170 (2015).

⁷⁰ See, e.g., Chidi Oguamanam & Teshager Dagne, *Geographical Indication (GI) Options for Ethiopian Coffee and Ghanian Cocoa*, in INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMIC IN AFRICA 77–108 (2015).

⁷¹ See Rizk, *supra* note 67.

VIII The Sustainable Development Nexus: Some Policy Lessons and Limitations

Most PPPs operate under the conventional knowledge governance framework that links stronger IP protection to development. Hence many PPPs are, essentially, ad hoc and interventionist concessions designed to cushion the effects of stronger IP regimes for developing countries pending such a time they make the magic leap and become like their industrialized counterparts. Therefore, in a way, PPPs are dedicated band-aids or quick fixes for deep-running issues of a skewed framework that has left many countries behind.

One of the flagship legal inspirations for PPPs in the area of access to medicines is the Doha Declaration, which is an adjunct of the much-advertised TRIPS' wiggle room.⁷² A prominent aspect of this is compulsory licensing.⁷³ Despite the practical and legal constraints associated with compulsory licensing, as a proposition, the latter is a source of irrefutable pressure on essential medicine patent holders to cozy up or partner with other public interest actors and proactively bridge the access gap.⁷⁴ In such case, PPPs not only help to mitigate the access crisis, but perhaps most importantly, they also ensure the extant IP status quo as well as the impregnable role of the private sector in setting the R & D agenda.⁷⁵

Thus, the operational framework of some PPPs and the legal and policy spaces that have facilitated them focus on the symptom and not on the problem. They are not designed to address the issue of how knowledge production happens in specific sociocultural and economic contexts. As Open AIR has found, that inquiry is important for IP and knowledge governance in the African context. It provides insights that support people to have ownership of their knowledge production process and to insist upon a global IP and knowledge governance policy space that not only recognizes their contribution but also values them as partners, rather than as tacit or docile recipients of IP prescriptions written for all by few in a fixated ideological mindset. It is vision that places people in their cultural and local contexts and at the centre of their own development, which is the essence of sustainable development.

In substance, Open AIR is a large cross-regional research partnership. It is an important vehicle to triangulate the practical, theoretical, and policy ramifications of IP and knowledge governance in Africa. Conceptually, as a research-driven and not a product-driven initiative, insights from Open AIR's research can shine lights, as a foundational matter, on how PPPs can be better exploited and reengineered beyond their current and ad hoc interventionist outlook in order to make them serve as sustainable development vehicles. For example, instead of a PPP to be dedicated to produce a subsidized electric car, green energy technology, or even brand name drugs for Africa's consumption, insights arising from Open AIR inquiries may inspire other PPPs to implement R&D efforts that tap Africa's factor endowments through a combination of on-the-ground practices of open and collaborative innovation, as well as informal and formal interface

⁷² See World Trade Organization Ministerial Conference, *Declaration on the TRIPS Agreement and Public Health*, WTO Doc, WT/MIN(01)/DEC/W/2 (Nov. 14, 2001), available at www.who.int/medicines/areas/policy/tripshealth.pdf?ua=1.

⁷³ See Sara M. Ford, *Compulsory Licensing Provision Under the TRIPS Agreement: Balancing Pills and Patents*, 15 AM. U. INT'L L. REV. 4, 941–971 (2000).

⁷⁴ See Oguamanam, *supra* note 1.

⁷⁵ *Id.*

and apprenticeship models, to produce or scale to a substantially African-made version of any of these knowledge products. Such an example represents a model of innovation capacity building as sustainable development.

We have found that despite differences and complexities on the African continent, there are systemic similarities that point to a pattern of collaborative and open innovation models as well as resistances and adaptations as the “continent responds to transformational pressures of market liberalization and global IP norms.”⁷⁶ African innovation, creativity, and knowledge production and governance models carefully negotiate and vacillate around selective pragmatism and prescriptive orthodoxy.

With innovation occurring in multiple contexts, from a historical continuum and transformation of traditional knowledge to the adaptations of the digital revolution, there is a complex intersection of formal and informal knowledge production and governance frameworks. These uncover opportunities for recalibrated or newer models of public interest partnerships or even business models to optimize the dissemination of the benefits of innovation and creativity. Informed by both practical and theoretical insights, a context-specific approach to IP and knowledge governance that targets the realities of creativity and innovation in the African settings can better inform policy on the use of PPPs to support truly localized sustainable development on the continent in a global knowledge ecosystem. Open AIR is committed to actively studying the IP policies and practices that drive collaborative innovation, a theme that represents an important insight from Africa’s knowledge governance experience and practices, which has implications for innovation-driven sustainable development on the continent.

A Some Policy Lessons from PPPs

The Open AIR partnership is an ongoing initiative. Building on previous successes, the partnership has continued to expand following the commitment of the partners to continue the research initiatives into the future. As new empirical studies get underway⁷⁷ and the network expands, we can draw a few lessons from the partnership experience within the framework of the PPP construct.

The first lessons from Open AIR point to the need for PPPs’ objectives to include foundational research, which is separated from the current focus on access to benefits of knowledge and innovation through products and services deliveries. As described above, PPPs remain understudied. In essence, the relevance of research partnerships such as Open AIR lies in their ability to re-imagine and push the envelopes of PPPs with slightly different emphasis. As the UN SDGs get underway there is already a strong consciousness for the creation of innovative partnerships toward accountability and their effective implementation.⁷⁸ Certainly from the Open AIR experience, the boundaries of PPPs can be pushed so long as partners have shared goals and objectives.

⁷⁶ See Jeremy de Beer et al., *Current Realities of Collaborative Intellectual Property in Africa*, in INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMIC IN AFRICA 373–394 (2015).

⁷⁷ See *Research*, OPEN AIR, www.openair.org.za/research/.

⁷⁸ See, e.g., the activities of the United Nations Global Compact initiative, which is committed to boosting sustainable and accountable development partnership pursuant to SDGs. *Leading the Way in the SGD Era: Connecting Global Business*, UNITED NATIONS GLOBAL IMPACT, www.unglobalcompact.org/docs/news_events/PSF2016/Leading-the-Way-in-the-SDG-Era.pdf (last visited Oct. 18, 2016).

The second lesson from a cross-regional IP and knowledge governance research partnership is that such initiative is needed to deeply root PPPs in the development agenda.⁷⁹ So far, quibbles over the development agenda in IP have built on historic and lingering mistrusts across the developed-developing country geopolitical divide. Even public interest NGOs and regional IGOs are not immune from the vicarious liabilities of these often tense environments for enunciating the development imperative in international IP and global knowledge governance policy.⁸⁰ This state of affairs opens an opportunity for a grounded research-based partnership that strategically operates at the intersection of these tensions without being pigeonholed in order to bring evidence-based insights that demonstrate the primacy of sustainability in IP, knowledge governance and development.

A third lesson from the Open AIR experience is that it unravels an uncommon, passive, and indirect form of private sector nesting in a research-driven PPP. Often, the private sector is cast as a self-interested, even opportunistic driver of PPPs. Little consideration is given to fact that some NGOs or ostensible public interest entities benefit from private sector contributions in their operations – in some cases without strings attached. Indirectly related to that, however, is our experience through the partnership in the reaffirmation of the private sector and the notion of entrepreneurship as critical to IP and knowledge governance for development. The private sector and entrepreneurship have remained the operational and constitutive component of PPPs,⁸¹ providing an important plank of that arrangement and assuming as much importance as the public sector and indeed all other partners.

However, in a research-oriented PPP construct such as Open AIR, it became quickly clear that knowledge production in Africa happens at complex interfaces of formal, informal, and semi-formal economies.⁸² But little credit is given to the self-evident reality that collaborative knowledge production in Africa happens in the swell of ubiquitous forms of creative entrepreneurships. Open AIR case studies, for example, those that have focused on informal-formal sectors interactions in automotive engineering in Kampala, Uganda,⁸³ on geographical indications options for Ethiopian Coffee and Ghanaian Cocoa,⁸⁴ and on communal trademarks for Nigerian leather and textile products,⁸⁵ find that entrepreneurship is a robust site for sustainable development-oriented capacity building on IP and knowledge governance. Open AIR encourages the expansion of its network members to include expertise in knowledge-based industries and grassroots entrepreneurship. The partnership examines the dynamics of IP and knowledge governance model with entrepreneurship and their scalability to leverage hitherto unfathomable opportunities as aspects of sustainable development.

⁷⁹ The challenge of how to effectively implement the current phase of WIPO development agenda has engaged policy makers and academics. Open AIR's research preoccupation with a context-specific and responsive innovation system that addresses the needs of the poor and marginalized aligns with the spirit of the development agenda. See Peter K. Yu, *A Tale of Two Development Agendas* 35 OHIO N. U. L. REV 465, 467 (2009).

⁸⁰ See Oguamanam, *supra* note 57.

⁸¹ See de Beer, *supra* note 76.

⁸² See Kawooya, *supra* note 56.

⁸³ *Id.*

⁸⁴ See Oguamanam & Dagne, *supra* note 70.

⁸⁵ See Adewopo, *supra* note 68.

B *Some Policy Limitations*

As a unique form of partnership, the Open AIR faces wide-ranging limitations in respect of its subject matter but also with regard to the partnership's operational and implementation experience. We have already highlighted the conceptual morass inherent in interfacing IP and knowledge governance with innovation and creativity on a continent that is under external pressure to conform to global IP standards which are not necessarily in sync with the informal-formal dynamic of prevailing collaborative knowledge production. In addition, Africa is a continent of fifty-four countries, comprising a few that are classified as developing countries. Even those in the developing countries category are not at identical levels of development. The same is true throughout the majority of the rest of the continent, which constitute the highest level of least developed countries of any region.

In addition to the variations in the levels of developments, Africa has complex colonial histories that translate in the diversity of its political and legal systems, languages (English, French, Portuguese, and Arabic), and orientations. As such, Africa is neither a unit of analysis, as tempting as it seems, nor is it a site for credible generalizations. As a partnership and network, Open AIR is constantly challenged in its fieldwork and recruitment by the continent's multi-prong diversities and variations in its levels of development. How to adequately tackle these challenges is a constant concern of our partnership. More so, because those considerations are critical to enable us to capture and effectively disseminate for policy impact a broad scope of issues of creativity and innovation on the continent in as much a representative manner as feasible.

Related to the uneven levels of development on the continent is the issue of institutional and social capacities, or lack of them, for effectively partnering in a cross-regional partnership that is funded by multiple agencies that require complex levels of accountability across diverse categories. We have found on the ground that there are uneven levels of gaps across regions, and even among institutions within the same region, in institutional capacity for large-scale grant management, administration, and partnerships.

From the perspective of the sustainability of a research partnership, Open AIR's operational pragmatism identifies the need to support capacity building in grant administration and even in methodologies for conducting interdisciplinary research among institutional and individual members of the network. The ability of African institutions to attract and implement research grants either alone or in partnership is critical to the idea of capacity-building for sustainable development not only in the area of IP and knowledge governance but also in institutional building and social capital development for research. From this experience, Open AIR underscores innovation capacity building as an essential complementary aspect of PPP for sustainable development in Africa's specific context, which is, certainly, relevant to developing countries outside of Africa.

Most conventional PPP models spend time and resources to map, on an extensive scope, the feasibility of the partnerships through, among other things, identifying common interests, organizational designs, benefit-cost analysis, results, and tenure of the partnerships.⁸⁶ Even though most of these considerations are relevant to the Open AIR partnership, they are not engaged or explored with the degree of technicality and precision that is pursued

⁸⁶ See Oguamanam, *supra* note 1.

in business or commercial-oriented PPPs. Pivotal to research partnerships such as Open AIR is, in principle, the idea of common interests in the subject matter(s) of the research shared among funders, partner institutions, and members of the network. However, these are hardly sufficient to engage the issue of commitment at both individual and institutional levels with regard to the implementation of the research and fostering synergy and complementariness across diverse range of subject matters covered in the research. Therefore, there is need for self-assessment and evaluation on continual basis through the progress of the partnership.

Lacking the precision and strict contractual and often narrow orientations of conventional PPPs, the Open AIR partnership navigates through flexible, pragmatic, and often reactive and proactive approaches, to sustain focus on its objectives. That spirit of flexibility and pragmatism is naturally susceptible to discretions and flaws. As a pragmatic matter, decisions are often contingent upon unpredictable variables. Judgment calls on what works and how best to leverage the dynamic of relationships across participating institutional and individual partners represent a steep learning curve that constitute the basis for our experience in growing the partnership. Such a context enables Open AIR to pursue strategies that concurrently focus on institutions and on individuals, including those nested within or without institutions, to ensure that the project is implemented with adequate institutional or individual commitment, or both, in an efficient manner. At times, an individual's commitment may be constrained by institutional factors; at other times institutional assets can be better leveraged by the presence of a specific individual. Such fluidity and flexibility at the intersection of organizational and individual dynamic is a challenge that Open Air has continued to manage. We aim to appraise how such dynamism can be leveraged and its susceptibility for abuse checked as an additional lesson in sustainable development through the Open AIR partnership.

Conclusion

PPPs are understudied and inchoate phenomena that have the potential to be one of the most strategic development tools of the twenty-first century. They can be imaginative institutions for fixing the public interest deficits at the intersection of IP and access to innovation by the most vulnerable. Yet, the paucity of commitment to sustainability is a fundamental flaw of current PPP models. These partnerships are often deployed in an interventionist manner to solve a major access or public interest crises linked to extreme proprietary control of innovation. As *ad hoc* interventionist strategies, PPPs consequently tend to operate under the shadow or suspicion of private capture of the public interest space. Lacking any deliberate commitment to sustainability, PPPs interventions, in some contexts, are perceived as a means of perpetuating the status quo in which extreme proprietary barriers to access to innovation ironically constitute one of the development obstacles of our time.

The current embryonic status of PPP as a form of experimentation in development circles and in global governance presents an opportunity to explore other development oriented and cognate forms of partnership. In this context, we have identified the Open AIR as a cross-regional research network and partnership not directly associated with specific public interest intervention or product and service delivery for development, exploring how such partnership can help better inform and improve the design of PPPs or partnership building generally. In our exploration of Open AIR, we argue that it is

typology of a research network and partnership strategy dedicated to both empirical and theoretical interrogation of knowledge production and governance dynamic, which can make a useful contribution to emerging perspectives on PPPs or other partnerships. Its case studies bring forward varied models of innovation and creativity as well as complex and nuanced approaches to IP and knowledge governance in Africa with important ramifications for the continent's overall sustainable development.

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