



A Cross-Regional Research Partnership for Sustainable Development: The Open African Innovation Research (Open AIR) Experience

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Abstract

This paper positions and critiques the Open African Innovation Research (Open AIR) network as a unique cross-regional public-private partnership (PPP) research platform. It examines, from empirical and theoretical perspectives, the elements of the Open AIR project, including its core driving factors relevant to the development gap associated with IP and knowledge governance¹ in Africa. The authors reflect on policy ramifications, practical lessons, and limitations of the cross-regional research partnership in an effort to advance the sustainable development objective and to expand understanding of PPPs in a context that is scarcely broached.

Keywords

open data, public-private partnerships (PPPs), Open AIR, development gap, sustainable development, cross-regional, knowledge governance, innovation

¹ Keith K. Maskus and Jerome H. Reichman, *The Globalization of Private Knowledge Good and Privatization of Global Public Goods*, 7 J of Intl Economic L 2, 279-320 (2004) [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.

Introduction

From practical, policy and theoretical perspectives, there are shared conventional understandings of the role of public-private partnerships (PPPs).² 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.³ With specific regard to the context of global knowledge governance and its interface with intellectual property rights (IPRs), PPPs serve as strategic instruments for efficient mobilization of resources to solve R&D problems, promote innovation and minimize associated transaction costs.

PPPs were proposed as “tools for good governance” in the 1990s, and gained prominence in international relations (IR) literature in the early 2000s.⁴ 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.⁵

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 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”.⁶

² See FRANK HARTWICH ET AL., FOOD SECURITY IN PRACTICE: BUILDING PUBLIC-PRIVATE PARTNERSHIP FOR AGRICULTURAL INNOVATION (2008).

³ *Id.*

⁴ DAVID J MAURASSE, STRATEGIC PUBLIC PRIVATE PARTNERSHIPS: INNOVATION AND DEVELOPMENT (2013) at 2.

⁵ Rhys Andrews, Marc Esteve & Tamyko Ysa, *Public-private joint ventures: mixing oil and water?* 35 PUBLIC MONEY AND MANAGEMENT 4, 265 (2015) at 265; Borzel, T & T. 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) online at: < userpage.fu-berlin.de/~atasp/texte/021015_ppp_risse_boerzel.pdf>; Lea Stradtler, *Designing public-private partnerships for development* 15 M@N@GEMENT 1, 77 (2012) at 95.

⁶ CATHERINE MOREDDU, PUBLIC-PRIVATE PARTNERSHIPS FOR AGRICULTURAL INNOVATION: LESSONS FROM RECENT EXPERIENCES (2016) at 8 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.>.

Likewise, PPPs can be defined as “collaborative engagements between public, private and not-for-profit actors or institutions.”⁷ 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 non-profit sector.⁸ This sector can include “nongovernmental organizations (NGOs) at the community level to large established anchor institutions like universities”.⁹ With such inclusion, a richer cross-sector collaboration is possible assisting in connecting and harnessing knowledge and creating a unique partnership to address the key “social concerns of our times”.¹⁰ Specifically, these partnerships assist with developing strategies and tackling transnational issues including global governance and 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.¹¹ Benefits that derive from these partnerships stem from the “pooling of resources”¹² 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.¹³ Without the trust or nature of reciprocity, which the partnership seeks to foster, the exchange of information and resources is unreliable.

PPPs often share features including: transnationality, public policy objectives, and a network structure.¹⁴ 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 long-term.¹⁵ 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 towards appropriate implementation and oversight.¹⁶ With this in mind an area

⁷ William P Boland & Peter WB 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>.

⁸ PUBLIC-PRIVATE PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: EMERGENCE, INFLUENCE AND LEGITIMACY (PHILIPP H PATTBERG ED., 2012) at xi.

⁹ *Id.*

¹⁰ *Supra* note 8.

¹¹ 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 (Philipp H Pattberg, ed., 2012) at 49.

¹² *Supra* note 6 at 7.

¹³ Stradtler, *supra* note 5 at 78.

¹⁴ *Supra* note 4 at 3.

¹⁵ *Supra* note 11.

¹⁶ Philipp Pattberg et al., *Conclusions: partnerships for sustainable development* in PUBLIC-PRIVATE PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: EMERGENCE, INFLUENCE AND LEGITIMACY, 239-248 (Philipp H Pattberg, ed., 2012) at 241-242.

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 non-profit capacity.

The role of PPPs in reducing transaction costs is a crucial adjunct to the practical realization of PPPs' core mission in the area of intellectual property (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 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, PPP 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, seeds, propagating materials or useful genetic resources for food and agriculture.¹⁷ Perhaps there are no more visible practical and policy strategies for addressing development gaps¹⁸ and inequity on multi-sectoral levels in the last century than the PPP models and their dynamic configurations, which now include various categories of actors such as non-profit and civil society entities.¹⁹ Similarly, there are few more competitive or imaginative designs, for fixing public interest deficits at the intersection of IP and access to innovation by the most vulnerable, than the possibilities within diverse PPP models.

However, the PPP option is hardly a foolproof public policy intervention strategy.²⁰ 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

¹⁷ Oxfam Briefing Paper, *Ending the R&D Crisis in Public Health: Promoting Pro-Poor Medical Innovation*, Oxfam International (2008), https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/bp122-randd-crisis-public-health_3.pdf [R&D Crisis in Public Health]; International Food Policy Research Institute's (IFPRI), *A Database of Public-Private Partnerships in (PPP) in the CGIAR, 2004*, Harvard Dataverse (2015), <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/YHDKKR>; See also *supra* note 1.

¹⁸ See Uche Ohia, *Infrastructural Concession in Nigeria: Challenges and Opportunities*, NIGERIANS IN AMERICA (August 16, 2011), <http://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), <http://www.thisdaylive.com/index.php/2016/09/13/ppps-key-to-our-desired-infrastructure-development/>.

¹⁹ For example of categories of key actors in leading global public health interventionist PPPs, see R&D Crisis in Public Health, *supra* note 3.

²⁰ See, e.g., Oxfam, *How a Public-Private Healthcare Partnership Threatens to Bankrupt Lesotho*, Oxfam International (April 7, 2014), <https://www.oxfam.org/en/multimedia/video/2014-how-public-private-healthcare-partnership-threatens-bankrupt-lesotho>.

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.²¹

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.²² Certainly, despite gaining traction, PPPs are still embryonic experimentations in development circles and in global governance.²³ 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.²⁴

Goal 8 of the 2005 United Nations Millennium Development Goals (MDGs) enunciated the concept of global partnerships for development.²⁵ Specifically, the MDG 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).²⁶ The 2015 United Nations Sustainable Development Goals (SDGs)²⁷ 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”²⁸

²¹ 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).

²² Barbara Adam and Jen Martens, *Partnerships and 2030 Agenda: Time to Reconsider their Role in Implementation*, Global Policy Forum (May 2016), <https://www.globalpolicywatch.org/wp-content/uploads/2016/05/On-Partnerships-GPF-input-to-discussion.pdf>.

²³ *Id.* See also Michael J. Hatton & Kent Schroeder, *Partnership Theory and Practice: Time for a New Paradigm*, 28 CAN J OF DEVELOPMENT STUDIES 1, 157-162 (2007).

²⁴ *Id.*

²⁵ See UNITED NATIONS MILLENNIUM DEVELOPMENT GOALS, <http://www.un.org/millenniumgoals/> (last visited Oct. 18, 2016).

²⁶ *Id.*

²⁷ See UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS, <http://www.un.org/sustainabledevelopment/sustainable-development-goals/> (last visited Oct. 18, 2016).

²⁸ See *Goal 17: Revitalize the global partnership for sustainable development*, UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS, <http://www.un.org/sustainabledevelopment/globalpartnerships/> (last visited Oct. 18, 2016) [emphasis supplied].

Most studies and explorations of PPP models focus on specific albeit diverse sectors targeting solutions for cross-border developmental challenges. Studies especially address problems that classical market economic frameworks and prevailing institutional arrangements, including IPRs, are unable to fix. For example, PPP's roles in product development, distribution and procurement, in health,²⁹ agriculture and food security, and environmental management and in new technologies showcase relevance, impact, justification, and, sometimes, critiques.³⁰ Perhaps more germane than the specifically enumerated sectors is the suitability of PPPs for tackling and negotiating the production, distribution, or delivery of the benefits of knowledge as a global public good in the context of what Keith Maskus and Jerome Reichman describe as “emerging transnational system of innovation”.³¹

Rarely explored, however, is the idea of PPPs as a prototype of research networks and partnerships not directly associated with specific public interest intervention or product and service delivery for development. Put differently, the notion of advancing or expanding the PPP experience through a research network and partnership strategy dedicated to both empirical and theoretical interrogation of knowledge production and governance dynamic is hardly captured in the emergent perspectives on PPPs. As the UN strengthens the concept of global partnerships as strategic instrument for sustainable development, there is need to explore other ways of imagining the PPP construct.

This paper positions and critiques the Open African Innovation Research (Open AIR) network as a unique cross-regional PPP research platform. It examines, on empirical and theoretical perspectives, the elements of the Open AIR project, including its core driving factors relevant to the development gap associated with IP and knowledge governance³² in Africa. The authors reflect on policy ramifications, practical lessons, and limitations of the cross-regional research partnership for not only advancing the sustainable development objective but also for expanding an understanding of PPPs in a context that is scarcely broached.

²⁹ See Chidi Oguamanam, *Patents and Pharmaceutical R&D: Consolidating Public-Private Partnership Approach to Global Public Health Crisis*, 13 J OF WORLD INTELLECTUAL PROPERTY 4, 556-580 (2010).

³⁰ See *supra* note 20; see also R&D Crisis in Public Health, *supra* note 3; Taiwo A. Oriola, *Strong Medicines: Patents, Markets, and Policy Challenges for Managing Diseases and Affordable Prescription Drugs*, 7 CAN J OF LAW AND TECHNOLOGY 1, 57-123 (2008) [Oriola].

³¹ See Stiglitz, *supra* note 1 and Maskus & H. Reichman, *supra* note 1 at 279.

³² *Id.*

Open AIR: A Sneak 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.³³ It 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.³⁴ The network expanded around 2011 to include researchers in 14 African countries investigating other areas of IP and innovation from multiple disciplinary perspectives.³⁵

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, a continent now straddled between the phenomenal opportunity and daunting circumstance of mapping its developmental aspirations within the innovation-driven landscape of what analysts have called the third industrial revolution.³⁶ 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 multi-sector 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.³⁷

³³ For more insights on Open AIR, see OPEN AIR: AFRICAN INNOVATION RESEARCH, <http://www.openair.org.za/about-us/> (last visited Oct 18, 2016).

³⁴ See ACCESS TO KNOWLEDGE IN AFRICA: THE ROLE OF COPYRIGHT (Chris Armstrong et al., eds., 2010).

³⁵ See *supra* note 31.

³⁶ JEREMY RIFKIN, THE THIRD INDUSTRIAL REVOLUTION: HOW LATERAL POWER IS TRANSFORMING ENERGY, THE ECONOMY AND THE WORLD (2008).

³⁷ See *generally*, JEREMY DE BEER ET AL., INNOVATION & INTELLECTUAL PROPERTY: COLLABORATIVE DYNAMICS IN AFRICA (2014).

Open AIR and the “Development” Narrative

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 PPP, 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 interventionist 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 IPRs 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.³⁸ The converse is that rather than promote innovation, creativity and development, IP constitutes an impediment to free exchange of ideas and other critical ingredients necessary for the promotion of innovation and creativity, and ultimately development.³⁹

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 different socio-economic and cultural contexts.⁴⁰ Despite the undergirding logic of these polarized views and their persistence, not much is known about how IP dynamics “do or could influence innovation and creativity as a means of development”.⁴¹

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.⁴² 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.⁴³ 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 foster sub-optimal impact of innovation on society, especially amongst the most vulnerable. It was only in the late twentieth century that a combination of factors, including the embedded and demonstrable capacity of digital technology for collaborative and networked innovation and creativity unmasked, amplified and re-enforced the potential of

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ See Jeremy de Beer, et al., *Innovation, Intellectual Property and Development Narratives in Africa*, in *supra* note 37 at 2.

⁴² See PETER DRAHOS AND JOHN BRAITHWAITE, *INFORMATION FEUDALISM: WHO OWNS THE KNOWLEDGE ECONOMY?* (2002).

⁴³ See INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME (Keith Maskus and Jerome Reichman, eds., 2005).

IP to constrain creativity and innovation.⁴⁴ That development has helped in no small measure to support alternative and countervailing narratives around openness and collaboration alongside overzealous IP protection regimes.⁴⁵

Despite the strides toward contested and balanced theories of IP and its interface with development,⁴⁶ international IP policy space and institutions are framed by, and operate around, the dominant narrative. Against that backdrop, patents, copyrights and other familiar formal checklists are used to rank the innovative and creative profile of countries.⁴⁷ A country's ability to appropriate the benefits of the free market economy is tied to the extent it protects conventional IPRs.⁴⁸ 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. It is obviously ill suited 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 ladder,⁴⁹ those countries remain under immense economic and political pressure to adopt an IP system that has difficulty grappling with their local contexts and contingencies.⁵⁰

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".⁵¹ Setting the cart before the horse, attempts to shore up African IP credentials have focused on artificial 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.⁵²

⁴⁴ One of the earliest attempt 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 the 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.

⁴⁵ See OPEN INNOVATION: RESEARCHING A NEW PARADIGM (Henry Chesbrough, et al., eds., 2006).

⁴⁶ See generally, RAMI M. OLWAN, INTELLECTUAL PROPERTY AND DEVELOPMENT: THEORY AND PRACTICE (2013).

⁴⁷ See WIPO, *Intellectual Property Statistics*, World Intellectual Property Statistics (2015), <http://www.wipo.int/ipstats/en/>.

⁴⁸ See Chidi Oguamanam, *Open Innovation in Plant Genetic Resources for Food and Agriculture*, 13 CHICAGO KENT J OF INTELLECTUAL PROPERTY 1, 11-50 (2013).

⁴⁹ See *supra* note 47.

⁵⁰ 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).

⁵¹ See *supra* note 42 at 6-7.

⁵² See Jeremy de Beer & Chidi Oguamanam, *Intellectual Property Training and Education: A Development Perspective*, International Centre for Trade and Sustainable Development, (2010) <http://www.ictsd.org/downloads/2010/11/iptrainingandeducation.pdf>; see also THE WORLD INTELLECTUAL PROPERTY ORGANIZATION: RESURGENCE AND THE DEVELOPMENT AGENDA (Christopher May ed., 2007)

It is logically tenable that the PPP model 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 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 crucial complement to innovation-driven sustainable development.

Open AIR as PPP Construct

Given the prevailing gap on African voices, realities and representations in global IP and knowledge governance environment, Open AIR takes on an unusual typology of PPPs. Ironically, 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 PPP research platform naturally situates it, for the most part, on a grounded theoretical and introspective interrogation of the interface of intellectual property 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"⁵³ that capture the innovation and creativity that happen in mainly informal and quasi-formal contexts in Africa.

Open AIR's PPP construct unfolds in multiple respects.

1. Cross-sector Representation

First, and the most obvious, is in the composition of institutional partners and sponsors, which as indicated above, include 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 non-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.⁵⁴

⁵³ See *supra* note 42 at 13.

⁵⁴ *Id.*

2. Novel Approach to Problem Solving

Second, unlike normal PPP models, the private sector content of Open AIR is indirect, passive and detached; allowing 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 PPP 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. If Africa's unique contributions to innovation and the on-the-ground cultural, social, economic and even political contexts in which knowledge is 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 capacitation initiative, one in which sustainable development is central.⁵⁵

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.

3. A Cross-Regional Approach

The third element of Open AIR as a cross-regional PPP construct is its international outlook. Intellectual property and global knowledge governance is a subject of regional and global interest,⁵⁶ 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

⁵⁵ On the intersections of capacitation, development and human, rights see AMARTYA SEN, DEVELOPMENT AS FREEDOM (1999).

⁵⁶ Madhavi Sunder, *IP3* 59 STANFORD LAW REVIEW 2, 257 (2006).

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.⁵⁷ 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.⁵⁸

4. Complex Questions and Methods

The fourth feature of Open AIR's PPP relates to the inherent complexity of the partnership's subject matter(s). Intellectual property 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 PPP 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 assert 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.⁵⁹

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 unraveling⁶⁰ on the African continent. Like a

⁵⁷ Graham Dutfield and Uma Suthersanen, *Harmonization or Differentiation in Intellectual Property Protection? The Role of History* 23 PROMETHEUS 2, 131-147 (2005); but see also Maskus & Reichman, *supra* note 31.

⁵⁸ See R&D Crisis in Public Health, *supra* note 3; Oriola, *supra* note 30; *supra* note 28.

⁵⁹ See Dick Kawooya, *Informal-Formal Sector Interactions in Automotive Engineering Kampala*, in *supra* note 37 at 56-76.

⁶⁰ See Laurence Helfer, *Regime Shifting: The TRIPs Agreement and New Dynamics of International Intellectual Property Making* 29 YALE J OF INTL L 1 (2004); see also Peter K. Yu, *International Enclosure, the Regime Complex*

conventional PPP, the research agenda is one that transcends the capacity of any one entity—public, private or other—to grapple with.

It is, however, not claimed that Open AIR as presently constituted, or any research consortium for that matter, 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 of PPP with practical, theoretical and policy ramifications, in the present case, for IP and knowledge governance and its interface with development.

5. A Network 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, scholars of various levels and categories; private, public sector and civil society actors and resource persons, bureaucrats and collaborators 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 PPPs 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”.⁶¹ Through GODAN, Open AIR is able to engage organizations ranging from the UN’s Food and Agriculture Organization (FAO), to the Consortium of International Agricultural Research Centers (CGIAR), to the multinational agrochemical company Syngenta.⁶² 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 ASK Justice initiative, “African Scholars for Knowledge Justice”.⁶³ Because of its orientation as a dynamic PPP, 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.⁶⁴ However, its diaspora vision serves multiple purposes including, of course,

and Intellectual Property Schizophrenia Michigan L Rev 1-33 (2007); see generally, CHIDI OGUAMANAM, INTELLECTUAL PROPERTY IN GLOBAL GOVERNANCE: A DEVELOPMENT QUESTION (2012) [Oguamanam].

⁶¹ See GODAN, GLOBAL OPEN DATA FOR AGRICULTURE AND NUTRITION, www.godan.info. (last visited Jun. 14, 2017).

⁶² See JEREMY DE BEER, OWNERSHIP OF OPEN DATA: GOVERNANCE OPTIONS FOR AGRICULTURE AND NUTRITION (2016).

⁶³ See ASK Justice, ASK JUSTICE RSS, www.ASKJustice.org (last visited Jun. 14, 2017).

⁶⁴ See e.g., the Carnegie Africa Diaspora Fellowship Program (CADFP) that 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. Further insight is available online, CARNEGIE AFRICAN DIASPORA FELLOWSHIP PROGRAM, www.iie.org/Programs/Carnegie-African-Diaspora-Fellows-Program (last visited Oct .18, 2016).

capacity building, but more importantly, it supports the integrity and legitimacy of its grounded and empirical approach to exploring African experiences with IP.

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 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 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 (graduate, undergraduate), postdoctoral fellows, a special Open AIR new and emerging researcher group (NERG) 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.

6. 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 of IP has since ceased to be the exclusive preserve of a few disciplines,⁶⁵ 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 representations⁶⁶ but also ensure that the constitutive or participating disciplinary agents have the benefit of collaborative or interdisciplinary immersion and experience.⁶⁷ In addition, such research must be open to leveraging opportune and circumstantial partnerships, outreaches and connections suited to collaboratively tackling innovation, knowledge governance for sustainable development.

⁶⁵ Peter K. Yu, *Reconceptualizing Intellectual Property in Human Rights Framework* 40 UC DAVIS L REV 3, 1039 (2007).

⁶⁶ See INTELLECTUAL PROPERTY FOR THE 21ST CENTURY: INTERDISCIPLINARY APPROACHES (Courtney B. Doagoo, et al., eds., 2014).

⁶⁷ *Id.*

7. A Shared Vision

Finally, like other PPP models, an essence of the Open AIR experience is the shared objectives, visions and goals and a convergence of consensus 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 over-protection and under-protection of IPRs 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, especially so in the context of the dynamics of collaborative and openness-oriented innovation in Africa.⁶⁸ As a guiding consensus, Open AIR partners believe that more and continued inquires 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 frameworks.

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 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,⁶⁹ crafts

⁶⁸ See *supra* note 37.

⁶⁹ See Nagla Rizk, *From De Facto Commons to Digital Commons? The Case of Egypt's Independent Music Industry*, in *supra* note 37 at 171-202.

and trade,⁷⁰ traditional medicines,⁷¹ food and agriculture⁷² — would be helpful to construction and implementation of more sustainable PPPs, not only within the extant conventional models but also new ones cutting across sectoral variables.

⁷⁰ See e.g. Adebambo Adewopo et al., *A Consideration of Communal Trademarks for Nigerian Leather and Textile Products* in *supra* note 37 at 109-131.

⁷¹ See Gino Cocchiario et al., *Consideration of a Legal “Trust” Model for the Kukula Healers’ TK Commons in South Africa* in *supra* note 37 at 151-170.

⁷² See e.g. Chidi Oguamanam and Teshager Dagne, *Geographical Indication (GI) Options for Ethiopian Coffee and Ghanaian Cocoa* in *supra* note 37 at 77-108.

The Sustainable Development Nexus

Most PPPs operate under the conventional 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 global knowledge governance framework that has literally left many countries behind.

One of the flagship legal inspirations for PPPs in the area of access to medicines is via the Doha Declaration, which is an adjunct of the much-advertised TRIPS' wobble room.⁷³ A prominent aspect of the 'wobble room' is the idea of compulsory licensing.⁷⁴ 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.⁷⁵ In such case, PPPs not only help to mitigate the access crisis, perhaps most importantly, they ensure that the extant IP status quo as well as the role of private sector in setting the R&D agenda remains impregnable.⁷⁶

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 socio-cultural and economic contexts. As Open AIR has discovered, in the African context, that inquiry is important for IP and knowledge governance. 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,

⁷³ 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) <http://www.who.int/medicines/areas/policy/tripshealth.pdf?ua=1>.

⁷⁴ See Sara M. Ford, *Compulsory Licensing Provision Under the TRIPS Agreement: Balancing Pills and Patents*, 15 AMERICAN UNIVERSITY INTL L REV 4, 941-971 (2000).

⁷⁵ See *supra* note 28.

⁷⁶ *Id.*

insights from Open AIR's research can shine lights, as a foundational matter, on how PPPs can be better exploited and re-engineered beyond their current and ad hoc interventionist outlook in order to make them serve as sustainable development vehicles. For example, instead of a PPP being dedicated to production of 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, informal and formal interface, and apprenticeship models to produce a substantially African-made version of any of these knowledge products. Such an example or insight represents a model of capacitation as sustainable development.

So far, Open AIR's insights have linked IP and knowledge governance on the African continent to sustainable development. For example, Open AIR case studies uncover 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 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, and also a pattern of resistances and adaptations as the "continent responds to transformational pressures of market liberalization and global IP norms".⁷⁷ 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 practical, 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. As a PPP, 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, and which has implications for innovation-driven sustainable development on the continent.

⁷⁷ See Jeremy de Beer et al., *Current Realities of Collaborative Intellectual Property in Africa* in *supra* note 37 at 374.

Lessons for Policy and for Sustainable Development

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 underway⁷⁸ and the network expands, we can draw a few lessons from the partnership experience within the framework of the PPP construct.

The first lessons are that Open AIR demonstrates that PPP categories are not closed. Indeed, PPP objectives need to include foundational research that is separated from the current focus on access to benefits of knowledge and innovation through products and services deliveries. PPPs remain understudied⁷⁹ and, 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.⁸⁰ Certainly from the Open AIR experience, the boundaries of PPPs can be pushed so long as partners have shared goals and objectives and are able to

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.⁸¹ So far, quibbles over the development agenda in IP have built on lingering mistrusts across the developing-developed country geopolitical divide. Those historic suspicions have since engulfed IP and knowledge government institutions, which often literally walk and work in the delicate balance of these deep-seated crossfires. Even public interest NGOs and regional IGOs are not immune to the vicarious liabilities of these often tense environments for enunciating the development imperative in international IP and global knowledge governance policy.⁸² This state of affairs opens an opportunity for a grounded research-based partnership that strategically operates at the intersection of

⁷⁸ See <http://www.openair.org.za/research/>.

⁷⁹ See *supra* note 21.

⁸⁰ See *e.g.* the activities of the United Nations Global Compact initiative, which is committed to boosting sustainable and accountable development partnership pursuant to the SDGs, United Nations Global Impact, *Leading the Way in the SGD Era: Connecting Global Business*, https://www.unglobalcompact.org/docs/news_events/PSF2016/Leading-the-Way-in-the-SDG-Era.pdf (last visited Oct. 18, 2016).

⁸¹ 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 context-specific and responsive innovation system that address 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 NORTHERN UNIVERSITY L REV 465-573 (2009) at 467.

⁸² See Oguamanam, *supra* note 60.

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. Not directly 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,⁸³ 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 frameworks.⁸⁴ 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 studies affirm that, both in its grassroots orientation and its formal constructs, entrepreneurship is a robust site for sustainable development-oriented capacitation 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.

⁸³ See *supra* note 80.

⁸⁴ See *supra* note 62.

Limitations of Open AIR as PPP

As a unique form of PPP, the Open AIR has wide-ranging limitations in respect of its subject matter but also in 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 54 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, 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 and administration.

From the perspective of the sustainable development 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 capacitation as 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 the essence of capacity building as complementary aspect of PPP for sustainable development in Africa's specific context, which is, certainly, relevant to developing countries.

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.⁸⁵ 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 obtains 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 in regard to the implementation of the research and fostering synergy and complementariness across diverse range of subject matters covered in the research.

Therefore, 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. But it enables Open AIR to pursue strategies that concurrently focus on institutions, qua 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, 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 a lesson or experience in sustainable development through the Open AIR partnership.

⁸⁵ See *supra* note 1.

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Open African Innovation Research (Open AIR) is a unique collaborative network of researchers investigating how intellectual property (IP) systems can be harnessed in open, participatory ways that have the potential to maximise knowledge access, innovation, and the sharing of benefits from innovation inclusively.

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