

Policy Paper

The Role of Intellectual Property Rights in Promoting Africa's Development

Overview of IPR in Africa

SEPTEMBER 2022



Intellectual property rights could benefit African youth, enabling them to leverage the continent's rich and diverse traditions and cultures for sustainable development. Photo: Martin Thaulow/Good people

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It has been developed as part of OSAA's mandate to undertake analytical, advisory and advocacy work, in particular its efforts to leverage science, technology and innovation to advance implementation of the 2030 Agenda for Sustainable Development and Agenda 2063 in Africa, including through raising awareness of the role that intellectual property rights can play as an enabler for sustainable development.

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1. Executive summary

This paper aims at providing an overview of intellectual property rights (IPR) in Africa. It is the first of a series of three policy papers under the overall title of *The Role of IPR in Promoting Africa's Development*. The paper outlines the basic concept of IPR in selected areas such as health, agriculture and industrialization, in which intellectual property (IP) could potentially play an important role to promote sustainable development. The following policy papers will present in-depth analyses and case studies on other aspects of IP.¹

The paper examines the importance of IPR, which could be leveraged as a tool to facilitate Africa's development through providing incentives to inventors and creators, as well as facilitating disclosure of knowledge and the transfer of technology and know-how.² IPR is a key element of science, technology and innovation (STI), which is an important cross-cutting enabler for the implementation of the United Nations 2030 Agenda for Sustainable Development (A/RES/70/1) and the African Union (AU) Agenda 2063. By itself, IP neither necessarily helps nor hinders development. It is how laws, policies and practices are designed and used in

different countries that determine whether IP is effective for development purposes.³ Based on this, the paper also advocates for the necessity for African United Nations Member States to craft balanced and calibrated national and regional IP ecosystems in order to optimize socioeconomic development based on each country's uniqueness.

This paper is written within the context of two recent important developments surrounding Africa that embed both challenges and opportunities of IPR. First, the recent COVID-19 pandemic, with the ongoing global discussions on an IP waiver for health products including COVID-19 vaccines⁴ revealed the challenges of IPR in promoting public health in developing countries, including in Africa. IPR provided significant incentives to pharmaceutical companies to invest hundreds of millions of dollars in the development of COVID-19 vaccines within a short period of time. This was done, in some cases, in collaboration with government research institutions, and/or was largely funded by governments. On the other hand, strong IP protections also demonstrate that rigid IP systems can hamper the well-being of millions of people. Second, the negotiation on investment, IPR and competition policy under phase II of the African Continental Free

1 Specific IP policy discussions and recommendations could also be guided by other relevant policy papers produced by specialized United Nations organizations, such as the World Intellectual Property Organization (WIPO), World Health Organization (WHO), United Nations Industrial Development Organization (UNIDO), United Nations Conference on Trade and Development (UNCTAD) and Food and Agriculture Organization of the United Nations (FAO) among others, as well as other relevant international and regional organizations.

2 United Nation Economic Commission for Africa (UNECA), "Intellectual property protocol" (Addis Ababa, no date).

3 World Intellectual Property Organization (WIPO), "DL-101 general course on intellectual property. Module 12: IP and development – the WIPO development agenda", 2019. Available at <https://welc.wipo.int/aip/aipCourses> (accessed on 8 August 2022).

4 The World Trade Organization (WTO) draft decision "Waiver from certain provisions of the TRIPS Agreement for the prevention, containment and treatment of COVID-19" (IP/C/W/669/Rev.1) specifically mentions "health products and technologies including diagnostics, therapeutics, vaccines, medical devices, personal protective equipment, their materials or components, and their methods and means of manufacture for the prevention, treatment or containment of COVID-19."

Trade Area (AfCFTA) provides prospects to promote Africa's economic transformation. In particular, it provides an opportunity for African Member States to reflect on the best IPR frameworks and strategies within a complex international IP arrangement.

The rest of this paper consists of the following sections: 2. Situation assessment; 3. Different categories of IPR; 4. Intellectual property frameworks and institutions at international, regional and subregional levels; 5. IPR as an enabler to promote the SDGs and Agenda 2063; 6. IPR policies in Africa – challenges and opportunities; and 7. Conclusion.

2. Situation assessment

The role of STI to promote socioeconomic development is widely recognized. However, the situation of the African continent needs significant improvement. In 2017, sub-Saharan African countries spent an average of 0.4 per cent of the gross domestic product (GDP) on research and development (R&D) compared to the world's average of 1.7 per cent,⁵ substantially below the 1 per cent target set by the AU. Similarly, one indicator of innovation is the number of patent registrations filed in countries, and Africa is lagging behind in this category as indicated in Table 1. In 2019, Africa

accounted for only 0.5 per cent of the world's patent applications, compared to 66.8 per cent for Asia, 19 per cent for North America and 10.9 per cent for Europe. Furthermore, the number of applications from residents constituted only 18.6 per cent, indicating that most of the applications were submitted by non-residents. This phenomenon was even seen in South Africa, which had the highest number of applications received in Africa, 6,914. However, the non-resident share of these applications was 91.8 per cent.⁶

TABLE 1: PATENT APPLICATION BY REGION, 2009 AND 2019

Region	Number of applications		Resident share, %		Share of world total, %		Average growth, 2009–2019
	2009	2019	2009	2019	2009	2019	
Africa	12,600	16,100	16.7	18.6	0.7	0.5	2.5
Asia	944,000	2,094,800	73.2	81.8	50.9	65.0	8.3
Europe	323,400	363,900	65.9	58.5	17.4	11.3	1.2
Latin America and Caribbean	52,200	55,700	12.5	15.3	2.8	1.7	0.7
North America	493,600	657,900	46.6	44	26.6	20.4	2.9
Oceania	30,100	35,800	13.6	8	1.6	1.1	1.7
World	1,855,900	3,224,200	61.8	69.2	100	100	5.7

Source: WIPO, *World Intellectual Property Indicators 2020*. Geneva, 2020.

Similar patterns were observed for other IPR indicators, as indicated in Table 2. Africa represents only 0.3–2.1 per cent of the world's application counts of trademarks, industrial

designs, plant variety and geographic indication, and the resident shares of these are also far below the world average.

⁵ United Nations Educational, Scientific and Cultural Organization (UNESCO), "Global investments in R&D", Fact sheet, No. 59 (Paris, 2020).

⁶ WIPO, *World Intellectual Property Indicators 2020*.

TABLE 2: APPLICATION COUNTS OF DIFFERENT TYPES OF IP BY REGION, 2019

Region	Trademarks (resident share), %	Industrial designs (resident share), %	Plant variety (resident share), %	Geographic indication, %
Africa	1.7 (44.0)	1.3 (63.1)	2.1 (20.3)	0.3
Asia	70.6 (90.9)	68.4 (92.6)	46.7 (89.2)	32
Europe	15.4 (73.2)	24.3 (70.6)	34.1 (69.2)	55.9
Latin America and Caribbean	5.3 (71.1)	1.1 (05.3)	6.2 (35.7)	5.6
North America	5.7 (63.7)	4.2 (41.3)	9.1 (49.9)	2.5
Oceania	1.3 (49.8)	0.3 (34.5)	1.8 (47.6)	3.8
World average (resident share)	(84.3)	(83.6)	(73.3)	-

Source: WIPO, *World Intellectual Property Indicators 2020*. Geneva, 2020.

These data suggests that Africa's contribution to the global innovation landscape is very marginal, which could be explained by heavy dependence on government or international cooperation as a source of R&D, limited use of IP, and a challenging business environment,⁷ including the relative complexity and high/prohibitive costs of patent registration in certain African countries, among other factors.

⁷ WIPO, "Global Innovation Index 2020" (2020)

3. Different categories of IPR

IP rights are private rights and territorial in nature (the principle of territoriality), which means that national laws regulate the conditions for their acquisition, maintenance and enforcement, and IPR granted or protected by a State are independent from those granted or protected by other States, and that the rights conferred under each State's IP law are limited to the territory of that State. IPR could also be explained as the result of a contract between the owner of the rights and the State. Thus, the national law determining these rights is a balance between the rights given to the owner of the IP and the need for benefits to flow to society.⁸

At a global level between States, international IP treaties and trade agreements cover various IPR in varying degrees of detail and comprehensiveness. Therefore, the treaty obligations that the contracting parties must adhere to equally vary. For example, the World Trade Organization (WTO) Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement contains obligations concerning the protection of copyrights, trademarks, industrial designs, geographical indications, patents, semiconductors and undisclosed information, and includes the core obligations of the two main pre-existing IP substantive treaties, the Berne Convention on Literary and Artistic Works (Berne Convention) and the Paris Convention on the Protection of Industrial Property (Paris Convention), via reference. In this way the TRIPS Agreement

established what is called "the international minimum standard" with which every WTO member should comply. It should also be noted that African countries vary significantly in their participation in multilateral treaties and bilateral commitments related to IPR.⁹ For more detail, please see 4.2.1. International treaties.

Please refer to Table 3 below providing descriptions of different categories of IPR.

⁸ WIPO Academy, DL-101 on General Course of IP Introduction, IP and Society
⁹ UNECA, "IP Protocol."

TABLE 3: DESCRIPTIONS OF DIFFERENT CATEGORIES OF IPR

Category of IPR	Description
Patents	A patent is an exclusive right granted for an invention, a product or process that provides a new way of doing something, or that offers a new technical solution to a problem. A patent provides patent owners with protection for their inventions. Protection is granted for a limited period, generally 20 years, and also limited to the country concerned.
Trademarks	A trademark is a distinctive sign that identifies certain goods or services produced or provided by an individual or a company. The period of protection varies (it is usually 10 years), but a trademark can be renewed indefinitely on payment of the corresponding fees. Trademarks are territorial rights, so must be registered separately in each country in which protection is desired.
Industrial designs	An industrial design refers to the ornamental or aesthetic aspects of an article, such as those applied to electric appliances, watches, jewellery, handicrafts and textile goods. The term of protection of industrial design is at least 10 years according to the TRIPS Agreement. In many countries, the duration of protection is longer (from 15 to 25 years per national jurisdiction)
Geographical indication	A geographical indication is a sign used on goods that have a specific geographical origin and possess qualities or a reputation due to that place of origin. Agricultural products typically have qualities that derive from their place of production and are influenced by specific local geographical factors, such as climate and soil.
Copyright and related rights	Copyright laws grant authors, artists and other creators protection for their literary, artistic and scientific creations, generally referred to as "works". Related rights law protects the rights of certain people or groups who are involved in creative work but do not qualify for copyright protection in many jurisdictions, including performers such as singers and actors, broadcasting organizations, and organizations such as record companies that produce sound recordings. Copyright has a time limit: it usually lasts for the life of the author and 50 years after their death. ¹⁰ Related rights are generally protected 20–50 years depending on the following listed conventions, and also national laws could grant longer periods.
Plant variety protection	Plant variety protection, also called a "plant breeder's right", is granted to the breeder of a new plant variety. Rights extend to the propagating material and seeds. The minimum duration of rights are 25 years for trees and vines and 20 years for other plants, as stipulated in the 1991 Act of the International Union for the Protection of New Varieties of Plants (UPOV) Convention.
Utility models	A utility model is similar to a patent but, depending on the country, is limited to composition of materials and devices that represent an incremental invention such as making small improvements to, and adaptation of, existing products, or that have a short commercial life. Utility model systems are often used by local inventors.

Source: UNECA, "Intellectual property protocol". Addis Ababa, no date; WIPO. *What is Intellectual Property?* Geneva, 2020.

¹⁰ The Berne Convention allows provision for a longer protection period. Thus, it is advisable to read the national copyright legislation of that country.

In addition to these forms of IPR, global discussions have been taking place on some issues involving or related to IPR, in particular, the WTO debates on biodiversity, traditional knowledge and patenting of life forms, and the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore.

In recent years, indigenous peoples, local communities and governments – mainly in biodiversity-rich countries – have sought IP protection for traditional forms of creativity and innovation. These, under the conventional IP system, are generally regarded as being in the public domain,¹¹ and thus, free for anyone to use¹². Indigenous peoples, local communities and many countries reject a “public domain” status of traditional knowledge (TK) and traditional cultural expressions (TCEs), and argue that this opens them up to unwanted misappropriation and misuse.¹³ Similarly, genetic resources (GRs) as such are not patentable, but inventions based on them may be. Widespread use of the digital and technological transformation of GRs for innovation in the life sciences creates the need for a unique, cross-cutting approach to the interface between IP and GRs.¹⁴ GRs are subject to access and benefit-sharing regulations defined by the Convention on Biological Diversity (CBD) and the Nagoya Protocol, as well as the International Treaty on Genetic Resources for Food and Agriculture of FAO.

Africa consistently advocates for recognition of the central importance of TK, TCEs and GRs on IP.¹⁵ In this context, some members of the African Regional Intellectual Property Organization (ARIPO) have adopted the Swakopmund Protocol on Traditional Knowledge and Folklore (2010), which aims to protect TK holders against any infringement of their rights, as well as to protect expressions of folklore against misappropriation, misuse and unlawful exploitation.

11 The public domain is the realm of material – including ideas, images, sounds, discoveries, facts and texts – that is unprotected by IPR and free for all to use or build upon. Duke University’s Center for the Study of the Public Domain, “Public domain frequently asked questions”, 2011.

12 This is because traditional forms of creativity and innovation do not meet IP protection criteria, such as novelty for patents and originality for copyright.

13 WIPO, “DL-101: general course on intellectual property. Module 11: TK, TCE and GR”, 2019. Available from <https://welc.wipo.int/aipt/aiptCourses> (accessed on 8 August 2022).

14 WIPO, “Genetic resources, traditional knowledge and traditional cultural expressions”, no date (accessed 5 August 2022).

15 Marumo Nkomo, Jabulani Mthombeni and Trod Lehong, “The African Continental Free Trade Area: a significant role for IP”, *WIPO Magazine*, December 2020.

4. Intellectual property frameworks and institutions at international, regional and subregional levels



Science, technology and innovation are recognized as multifunctional tools for Africa's sustainable development

Photo: Martin Thaulow/Good people

4.1 Development agendas and science, technology and innovation

Africa's sustainable development is guided by both international and regional development agendas, namely the 2030 Agenda for Sustainable Development and AU Agenda 2063. Both agendas take comprehensive and multisectoral approach to ensure that there is "no one left behind" in Africa. STI is now widely recognized as the fundamental tool for the implementation of both agendas,

and in particular to transforming the African economy. At the global level, STI is particularly highlighted under Goal 17 of the SDGs, "Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development". In this respect, the United Nations has set up the Multi-Stakeholder STI Forum for the Sustainable Development Goals (STI Forum), and the outcomes of its annual meeting feed into the High-Level Political Forum on Sustainable Development. Also, in July 2019, the United Nations Inter-Agency Task

Team launched the Global Pilot Programme on STI for SDGs Roadmaps, which is currently being piloted in Ethiopia, Ghana and Kenya.

At the continental level, AU Agenda 2063 recognizes STI as multifunctional tools, and emphasizes that Africa's sustained growth, competitiveness and economic transformation require sustained investment in new technologies and continuous innovation in the areas such as agriculture, clean energy, education and health. In particular, STI is highlighted under Aspiration 1, "A prosperous Africa, based on inclusive growth and sustainable development." The *First 10 Year Implementation Plan of Agenda 2063* stipulates "Education- and STI skills-driven revolution" as a priority under Goal 2 on "Well-educated citizens and skills revolution underpinned by science, technology and innovation", and "STI-driven manufacturing, industrialization and value addition" as priority under Goal 4 on "Transformed economies".¹⁶ The AU has been advancing an STI agenda based on the Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024), which aims to accelerate Africa's transition to an innovation-led, knowledge-based economy.

4.2. Intellectual property rights

IPR are relevant to STI as they apply to all stages of scientific, technological and innovative endeavours.¹⁷ This section overviews IPR frameworks at international and regional levels.

4.2.1 INTERNATIONAL TREATIES

There are multiple international agreements which cover different categories of IPR and take various approaches. In addition to the major international agreements (Table 4), there are other regional and bilateral agreements, which provide different degrees of engagement of concerned countries. Table 4 is not exhaustive, and there are more than 30 treaties relevant to Africa.¹⁸ Among international agreements, WTO's TRIPS Agreement, part of the Uruguay Round of trade negotiations and within the General Agreement on Tariffs and Trade – is considered the most significant multilateral IP treaty.

The TRIPS Agreement covers all rights explained in the preceding section except for utility models, and also includes other IPR, namely the layout designs of integrated circuits and confidential information. Most African Member States are already members or are in the process of accession.¹⁹ The TRIPS Agreement sets minimum standards of protection for the IPR. It should also be noted that the TRIPS Agreement was accepted, as one of the outcomes of the Uruguay Round, in exchange for concessions in agriculture and textiles in the "grand deal" of the Round.²⁰

¹⁶ AU, *First 10 Year Implementation Plan of Agenda 2063* (Addis Ababa, 2015).

¹⁷ Caroline B. Ncube, *Science, Technology & Innovation and Intellectual Property: Leveraging Openness for Sustainable Development in Africa* (Cape Town, Juta and Company, 2021), p. 9.

¹⁸ Ibid. These treaties include three criteria; the instrument is multilateral; at least one African country is a party of the instrument; and the instrument has binding provisions on IPR, namely copyright, patents, trademarks, trade secrets, TK, biodiversity and/or generic resources.

¹⁹ The African Member States that are in the process of accession are Algeria, Comoros, Equatorial Guinea, Ethiopia, Libya, Sao Tome and Principe, Somalia, South Sudan and Sudan.

²⁰ Carlos M. Correa, "Intellectual property: how much room is left for industrial policy?", Discussion paper, No. 223 (Geneva, 2015).

TABLE 4: MAJOR INTERNATIONAL AGREEMENTS OF DIFFERENT CATEGORIES OF IPR (NOT EXHAUSTIVE)

Category of IPR	Main international agreements on IP
Patents	<ul style="list-style-type: none"> • The Paris Convention for the Protection of Industrial Property (1883) • The WIPO-administered Patent Cooperation Treaty (1974) • Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure (1977) • The TRIPS Agreement (1994)
Trademarks	<ul style="list-style-type: none"> • The Madrid Agreement concerning the International Registration of Marks (Madrid Agreement) (1891) • The Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks (Madrid Protocol) (1989) • The TRIPS Agreement (1994)
Industrial designs	<ul style="list-style-type: none"> • The Hague Agreement Concerning the International Deposit of Industrial Designs (1925) • The TRIPS Agreement (1994)
Geographical indication	<ul style="list-style-type: none"> • The Paris Convention of the Protection of Industrial Property (1883) • The Madrid Agreement (1891) • The Lisbon Agreement for the Protection of Appellations of Origin and Their International Registration (1958) • The Madrid Protocol (1989) • The TRIPS Agreement (1994)
Copyright	<ul style="list-style-type: none"> • The Berne Convention (1886) • The TRIPS Agreement (1994) • The WIPO Copyright Treaty (1996) • The Marrakesh Treaty to Facilitate Access to Published Works for Persons who are Blind, Visually Impaired or Otherwise Print Disabled (2013)
Related rights	<ul style="list-style-type: none"> • The Rome Convention for the Protection of Performers, Producers of Phonograms, and Broadcasting Organisations (1961) • The WIPO Performances and Phonogram Treaty (1996) • Beijing Treaty on Audiovisual Performances (2012)
Plant variety protection	<ul style="list-style-type: none"> • The UPOV Convention (1991) • WTO members committed through the TRIPS Agreement to provide protection to plant varieties, either by patents or by an effective sui generis system (a special system for plant varieties)

4.2.2 AFRICAN UNION AND REGIONAL ECONOMIC COMMUNITIES' TREATIES AND PROTOCOLS

At the regional level, the AU has so far adopted two important IPR instruments, as indicated in Table 5.

TABLE 5: AU IPR INSTRUMENTS	
Name	Description
The Continental Strategy on Geographical Indications (2017)	The strategy identified geographical indications (GIs) as a tool to promote sustainable rural development and food security. Consequently, local communities will be able to economically leverage the unique qualities of agricultural products based on their geographic areas of production. The exploitation of benefits associated with GIs by local communities is expected to result in economic development, especially for women and youth.
The African Model Legislation for the Protection of the Rights of Local Communities and Breeders and for Regulations of Access to Biological Resources (2000)	This model law was developed as an alternative to the UPOV Convention, being contextualized to Africa's needs and priorities. It aims to protect Africa's common biological diversity and the livelihood systems dependent on it with a common tool. The model law is also intended to be used as a guide for African countries developing national laws on local community rights, plant breeders' rights and regulation of access to biological resources.

At subregional levels, four out of Africa's eight regional economic communities (RECs) have developed IP instruments as shown in Table 6. These four RECs are the Common Market for Eastern and Southern Africa (COMESA) with 21 members, the East African Community (EAC) with seven members, the Economic Communities for West African States (ECOWAS) with 15 members, and the Southern African Community for Development (SADC) with 16 members.

TABLE 6: REC IP INSTRUMENTS

Name	Description
Policy on Intellectual Property Rights and Cultural Industries of the Common Market for Eastern and Southern Africa (2011) (COMESA IP policy)	The policy acknowledged that "in a 'knowledge-based and innovation-driven economy', IP has become a major tool or catalyst in economic growth and national development, and in wealth creation for individuals, companies, countries as well as regional groupings." ²¹
Regional Intellectual Property Policy on the utilization of public health-related WTO-TRIPS flexibilities and the approximation of national IP legislation (2013) (EAC IP policy)	The policy aims at guiding its member States on how their national IP legislation must be adjusted to enable them to fully utilize the public health-related WTO-TRIPS flexibilities. In this respect, the utilization of the transition period for least developed countries (LDCs) for the implementation of the TRIPS Agreement, extended until 1 July 2034, and the special transition period related to pharmaceutical products which is valid until 1 January 2033, is encouraged under the policy.
ECOWAS TRIPS policy and guidelines for implementation of TRIPS Flexibilities (2012)	The policy was developed to elaborate the national legislation of ECOWAS members to improve access to medicines because of the limited use of the flexibilities and laxity in incorporating fully the TRIPS flexibilities in their national laws.
SADC Regional Framework and Guidelines on Intellectual Property Rights (2018)	The framework and guidelines aim to foster cooperation on IP issues within the context of industrialization, trade, and addressing the socioeconomic development and competitiveness of the SADC region and its transition to innovation-driven knowledge economies. ²² Both were approved by the SADC Council of Ministers in August 2018 in Namibia. ²³
SADC Protocol for Protection of New Varieties of Plants (Plant Breeders' Rights)	Endorsed by the SADC in 2014, the Protocol for Protection of New Varieties of Plants (Plant Breeders' Rights) is yet to be fully ratified to enter into force. ²⁴

4.3. Africa's IPR regional organizations

Apart from RECs, there are two IPR-specialized organizations in Africa, ARIPO and the African Organization of Intellectual Property (OAPI). They have different member States and take different approaches to IPR issues (refer to Table 7 and Annex).

4.3.1. ARIPO aims at promoting, developing and harmonizing IP laws and policies among its 21 member States,²⁵ whereas each State retains its respective national IP instruments and institutions. The members could choose to become party on different protocols to different varieties of IPR, namely patents, utility models, trademarks, industrial designs, TK and folklore, and the new varieties of plant, copyright and related rights. ARIPO undertakes substantive examination of patent and utility

²¹ COMESA, *COMESA Policy on Intellectual Property Rights* (2011), para. 9.

²² SADC, *Regional Intellectual Property Framework and Guidelines* (Gaborone, 2018).

²³ SADC, "The joint meeting of the SADC ministers responsible for education and training; and science, technology and innovation, 20–21 June 2019 Safari Hotel Windhoek, Namibia", 21 June 2019.

²⁴ Ncube, *Science, Technology & Innovation and Intellectual Property*, p. 86.

²⁵ Botswana, Eswatini, the Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Sao Tome and Principe, Seychelles, Sierra Leone, Somalia, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

model applications for contracting States under the Harare Protocol on Patents, Industrial Designs and Utility Models (Harare Protocol), whereas only pro forma examinations are carried out for industrial designs and trademarks. For patent and utility models, national IP offices retain a patent registration function.²⁶

Even though Africa's three largest economies of Egypt, Nigeria and South Africa do not form part of the IP regional systems, the ARIPO and OAPI systems provide a relatively cheap, easy and effective way of extending IP protection to a total of 38 African countries.²⁹

4.3.2. With its 17 member States,²⁷ OAPI has a unitary system with uniform legislation, a common office and centralized procedures, which grant IPR over its entire territory. OAPI operates under the Bangui Agreement, which encompasses patents, utility models, trade and service marks, industrial designs, trade names, GIs, literary and artistic property, unfair competition, layout designs integrated circuits, and plant varieties, fully in line with the UPOV Convention. OAPI is the industrial property office common to its 17 member States, and registers trademarks which are valid in all member countries.²⁸ OAPI manages patent applications on behalf of its member States, granting patents valid in all 17 States. In contrast to ARIPO member States, national IP offices of OAPI member States have no patent registration function.

²⁶ Ncube, *Science, Technology & Innovation and Intellectual Property*, p. 66.

²⁷ Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Cote d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guinea-Bissau, Mali, Mauritania, Niger, the Republic of the Congo, Senegal and Togo.

²⁸ WIPO, "DL-101 general course on intellectual property. Module 4: trademarks", 2019. Available at <https://welc.wipo.int/aip/aipCourses> (accessed on 8 August 2022).

²⁹ Lorna Mbatia and Brenda Vilita, "AfCFTA: how intellectual property laws can help create jobs", *Africa Renewal*, 5 January 2021.

TABLE 7:ARIPO AND OAPI

Institutions	ARIPO	OAPI
Member States	21 member States; 9 have national IP policies ³⁰	17 member States
Operations	ARIPO operates based on harmonization. While retaining their national IP instruments and institutions, its member States have become parties of the below protocols, and domesticate them.	OAPI operates based on a unified regional IP system and regulations
Protocols and agreements	<ul style="list-style-type: none"> • Lusaka Agreement (1976) – creation of organization • Harare Protocol (1984) (19 contracting member States as of January 2022) • Banjul Protocol (1993) – trademarks (10 contracting member States as of December 2019) • Swakopmund Protocol (2010) – TK and folklore (eight contracting States) • Arusha Protocol (2015) – protection of new varieties of plants (five member States signed, but not yet in force) • Kampala Protocol (2021) – voluntary legislation of copyright and related rights 	<ul style="list-style-type: none"> • Bangui Agreement (1977) – patents, utility models, trademarks and service marks, industrial designs, trade names, GIs, literary and artistic property, unfair competition, layout designs of integrated circuits, and plant varieties (UPOV Convention)

As outlined, Africa has various AU, RECs and IP regional organizations' frameworks and initiatives, and therefore each African country has different engagements and obligations, as well as roles for IP administration. For instance, the roles of national IP offices differ between ARIPO and OAPI members, as well as from other non-ARIPO/OAPI members. The level of domestication of regional and subregional IP model laws, guidelines and policies may also differ among African countries. In this respect, each African country, within its IP policy space and structure, could adopt effective IP instruments to advance its own development.

³⁰ ARIPO, "Member States IP policies", no date. Available at <https://www.aripo.org/member-states-ip-policies/> (accessed on 5 August 2022).

5. IPR as an enabler to promote the SDGs and Agenda 2063



IPRs have the potential to play an important role in promoting public health.

Photo: Martin Thaulow/Good people

5.1 Public health

Promoting good health and well-being is fundamental to advance the implementation of the 2030 Agenda for Sustainable Development and AU Agenda 2063. SDG 3 is set as “Ensure healthy lives and promote well-being for all at all ages”, while the *First 10 Year Implementation Plan of Agenda 2063* sets Goal 3, “Healthy and well-nourished citizens”, under Aspiration 1: “A prosperous Africa based on inclusive growth

and sustainable development.” To achieve these goals on health, various AU regional initiatives are already under way. These include the African Medicines Regulatory Harmonization initiative, the establishment of the African Medicines Agency whose treaty came into force in November 2021,³¹ the Pharmaceutical Manufacturing Plan for Africa, the Partnerships for African Vaccine Manufacturing and AUDA-NEPAD’s Pandemic Resilience Accelerator for African Health-related Businesses.

31 AU, “Treaty for the establishment of the African Medicines Agency (AMA) enters into force”, 9 November 2021.

Low access to medicines and health services remains a major impediment to public health in many African countries. Currently, Africa accounts for over 25 per cent of the pharmaceutical market, but produces only 2 per cent of the drugs it consumes. The continent imports over US\$14 billion worth of drugs.³² Similarly, Africa consumes 1.3 billion vaccines annually, comprising 25 per cent of the global demand for vaccines; of this, only 12 million vaccine doses were manufactured in Africa, accounting for 1 per cent of its requirements, indicating that Africa depends on imports for 99 per cent of its vaccine needs.³³ Also, the high costs of imported medicines not only increase the health burden of the continent, but also have negative implications on access and affordability. Affordability is important, since up to 90 per cent of the populations buy medicines through out-of-pocket payments.

IPR has the potential to play an important role in promoting public health. Target 3.B of SDG 3 is relevant in this respect "Support the research and development of vaccines and medicines for the communicable and noncommunicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in TRIPS to protect public health, and, in particular, provide access to medicines for all."

However, in addition to the limited use of IP within the African context, IP is considered to be a limiting factor in terms of access to drugs, medical devices and vaccines. The recent search for an effective treatment and vaccine for COVID-19 also highlighted the tension between IPR and public health interest. The TRIPS Agreement establishes minimum standards in the field of IP. All WTO member States have to comply with these standards by modifying their national regulations to accord with the rules of the agreement. The main change with respect to pharmaceuticals is the obligation to grant patent protection to pharmaceutical product and process inventions.³⁴ On the other hand, the TRIPS Agreement does contain several safeguards, known as the "TRIPS flexibilities", designed to ensure the protection of IPR does not stifle competition or impede access to essential products. Furthermore, the TRIPS Agreement sets pharmaceutical product patent waivers to LDCs until 1 January 2033 or when the LDC ceases to be a LDC, whichever occurs first, in order for these countries to secure time for them to address their public health need.

These TRIPS safeguards are, however, not fully implemented or used in most African countries.³⁵ While some African LDCs such as Angola, Burundi, Madagascar, Rwanda, Uganda and Zanzibar (of the United Republic of Tanzania) introduced provisions in their national patent laws to implement this transition period,³⁶ research indicated in 2012 that pharmaceutical patents had already

32 Vera Songwe "A continental strategy for economic diversification through the AfCFTA and intellectual property rights", *Brookings*, 8 January 2020.

33 Yousuf Vawda, "The TRIPS COVID-19 waiver, challenges for Africa and decolonizing intellectual property", Policy brief, No. 99 (Geneva, South Centre, 2021).

34 Amal Nagah Elbeshbishi, "TRIPS and public health: what should African countries do?", African Trade Policy Centre work in progress, No. 49 (Addis Ababa, UNECA, 2007).

35 Yousuf Vawda and Bonginkosi Shoji, "Eighteen years after Doha: an analysis of the use of public health TRIPS flexibilities in Africa", Research paper, No. 103 (Geneva, South Centre, 2020).

36 UNECA, AU, African Development Bank (AfDB) and UNCTAD, *Next Steps for the African Continental Free Trade Area: Assessing Regional Integration in Africa | ARIA IX* (Addis Ababa, 2019).

been provided in 24 other African LDCs.³⁷ Furthermore, many African countries engaged in other multilateral and bilateral agreements, in particular with developed economies such as the European Union and United States of America, that sometimes strengthen the minimum TRIPS standards through the progressive harmonization of policies along the standards of economically and technologically advanced countries, diminishing ways to get around TRIPS flexibilities. This calls for carefully considered national IP policies and strategies to ensure public health.

The recovery from the COVID-19 pandemic will present great opportunities for African countries to promote industries including pharmaceutical manufacturing that will increase the continent's resilience and capacity to respond to disruption in pharmaceutical supply chains. In this respect, active government policy intervention is needed in designing national legislation that addresses human development needs in terms of access to health care. Furthermore, the low levels of patenting activity by African countries calls for the need to develop and reinforce health innovation systems. This can be done through policies that support the health research system and a local incentive structure that focuses research on local health challenges.³⁸ It is particularly crucial for Africa to build its own capacity to produce essential drugs for public health diseases and reduce reliance on its external trading partners,³⁹ including

through reinforcing regional value chains of the pharmaceutical industry by leveraging the implementation of AfCFTA and promoting relevant AU initiatives outlined earlier.⁴⁰

Another area of implication of IPR to public health is traditional and complementary medicines (T&CM). WHO defines traditional medicinal knowledge as the total sum of knowledge, skills and practices that are based on theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health and the prevention, diagnosis, improvement or treatment of physical and mental illnesses.⁴¹ WHO reported that about 80 per cent of people in developing countries rely on traditional herbal mixtures to treat different diseases, and most villages in Africa still depend solely on traditional herbal mixtures as a source of health treatments.⁴²

According to a WHO report, within the WHO African Region between 2005 and 2018, significant progress was noted in the development of national policies, laws and regulations, and national programmes, for T&CM as indicated in Table 8. The region fares significantly better than the global scenario in most indicators of T&CM, apart from regulation and registration of herbal medicines, which remain a challenge for the region.⁴³

37 Benin, Burkina Faso, Burundi, Chad, Central African Republic, Democratic Republic of the Congo, Eswatini, Gambia, Guinea, Guinea-Bissau, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Togo, Uganda, United Republic of Tanzania, and Zambia. Ncube, *Science, Technology & Innovation and Intellectual Property*, p. 33.

38 Marion Motari, Jean-Baptiste Nikiema, Ossy M. J. Kasilo, Stanislav Kniazkov, Andre Loua, Aissatou Sougou and Prosper Tumusiime, "The role of intellectual property rights on access to medicines in the WHO African region: 25 years after the TRIPS Agreement", *BMC Public Health*, vol. 21 (2021).

39 Faizel Ismail, "The WTO TRIPS waiver should help build vaccine manufacturing capacity in Africa" Policy brief, No. 97 (Geneva, South Centre, 2021).

40 Nelson Mandela School of Public Governance, *Pharmaceuticals, Health Care Value Chains and Health Resilience: Summary Report* (Claremont, University of Cape Town Press, 2021).

41 Petros P.N. Dlamini and Khanyile Nokwanda, "Preservation of traditional medicinal knowledge: initiatives and techniques in rural communities in KwaZulu-Natal", *Library Philosophy and Practice* (2021).

42 Kunle Okaiyeto and Oluwafemi O. Oguntibeju, "African herbal medicines: adverse effects and cytotoxic potentials with different therapeutic applications", *International Journal of Environmental Research and Public Health*, vol. 18, No. 11 (2021).

43 WHO, *Global Report on Traditional and Complementary Medicine* (Geneva, 2019).

At African regional, subregional and national levels, various efforts have been made to protect and promote TK, including T&CM, in Africa in view of leveraging TK to promote socioeconomic development, including public health. For instance, the AU's predecessor, the Organization of African Unity, adopted the Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources in 2000. The Model Law is intended to be used as a guide for African countries developing national laws on local community rights, plant breeders' rights and regulation of access to biological resources. While the approach of the Model Law does not make use of conventional IPR as means to protect TK and GRs, it intends to protect and promote TK and GRs in line with the CBD, which recognizes the role and achievement of local and indigenous communities in the conservation of biological diversity and so recognizes the importance of biodiversity as an essential area within which to reaffirm and protect community rights.⁴⁴ Also, indigenous T&CM providers are regulated under the OAPI framework for identification of traditional therapists, developed in 2004,⁴⁵ while eight ARIPO member States have also adopted the Swakopmund Protocol on protection of TK and expressions of folklore, in order for them to develop laws to protect TK at a national level as indicated earlier.

44 Johnson A. Ekpere, *The OAU's Model Law: The Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources. An Explanatory Booklet* (Lagos, Organization of African Unity, 2000).

45 Ibid.

TABLE: 8 WHO AFRICA REGION, DEVELOPMENT OF T&CM, 2005–2018

Category	Regional number of Member States with affirmative responses in 2005	Regional number of Member States with affirmative responses as at 2018	Regional % of Member States with affirmative responses as at 2018 (N=47)	Global % of Member States with affirmative responses as at 2018 (N=194)
National policy on T&CM	12	40	85%	51%
Law or regulations on T&CM	10	39	83%	56%
National programme on T&CM	15	34	72%	41%
National office for T&CM	25	39	83%	55%
Expert committee on T&CM	16	34	72%	48%
National research institute for T&CM or herbal medicines	18	29	62%	39%
Regulation on herbal medicines	12	20	43%	64%
Registration of herbal medicines	8	23	49%	64%
Population using T&CM	-	41	87%	88%

Note: The 2018 data set includes 1) 2012 data, and 2) additional Member States who responded “Yes” to the update survey, but either replied “No” or did not reply to the first and second surveys, or responded “Yes” through additional data sources (e.g. regional reports and data verification during 2016–2018). There may be Member States in which the T&CM situation has changed, not accounted for here.

Source: WHO. *Global Report on Traditional and Complementary Medicine*. Geneva, 2019.

It should be noted that regional and subregional model laws and protocol have to be tailored to the specific conditions, practices and legal systems of each State, and these efforts are needed to effectively regulate and protect TK from biopiracy by foreign companies or multinationals, and to leverage TK to promote not only the national pharmaceutical industry, including R&D, but also other industries such as cosmetics, chemicals and agricultural industries in view of advancing socioeconomic development.⁴⁶ Thus, the health and biotechnology markets hold great potential for Africa, if the use of IP is widely acknowledged and harnessed together with advanced STI capabilities. In this regard, the report on

the Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals (E/HLPF/2021/16) indicates that proponents of open science⁴⁷ and strict IPR “agreed that there is no fundamental contradiction between the two and that there are constructive ways forward for addressing the great global challenges.” The development of a biotechnology supply chain on the continent will not only help to diversify Africa’s economies but will also create jobs. A well-exploited African health care and wellness sector, including regional pharmaceutical value chains, could create over 16 million jobs across the continent.⁴⁸

⁴⁶ In the interaction between TK and IP, the case of *Hoodia gordonii* of South Africa is noted. See UNECA, AU, AfDB and UNCTAD, *Next Steps for the African Continental Free Trade Area*, p. 106.

⁴⁷ UNESCO Member States adopted the UNESCO Recommendation on Open Science in November 2021 in view of developing an international standard-setting instrument on open science to promote STI, and reducing the digital, technological and knowledge divides existing between and within countries.

⁴⁸ Songwe, “A continental strategy for economic diversification through the AfCFTA and intellectual property rights”.



Promoting African agriculture is core to achieving the 2030 and 2063 agendas.

Photo: Martin Thaulow/Good people

5.2 Agriculture/food security

Agriculture has been identified as the main driving force for African development.

The sector has undergone numerous transformations. Africa contains about 60 per cent of arable land in the world, and agriculture provides 54 per cent of the total employment on the continent.⁴⁹ Agriculture, fish and forestry account for about 14 per cent of the GDP of sub-Saharan Africa.⁵⁰

Promoting African agriculture and food security is, therefore, at the core of achieving the 2030 Agenda for Sustainable development and Agenda 2063. In particular, SDG 2, “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”, includes targets such as doubling the agricultural productivity and incomes of small-scale food producers; ensuring sustainable

food production systems and implementing resilient agricultural practices that increase productivity and production; and maintaining the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species. At a regional level, the *First 10 Year Implementation Plan of Agenda 2063* sets Goal 5 as “Modern agriculture for increased productivity and production”, and promotes agriculture, including through the Comprehensive African Agricultural Development Programme.

Similarly to the situation for public health, several relevant international instruments exist for IPR. These include TRIPS, UPOV, CBD and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) of FAO, adopted in 2001. The latter treaty aims at promoting the conservation and sustainable use of all plant GRs for food and agriculture, and

⁴⁹ International Labour Organization (ILO), “Data finder”, World Employment and Social Outlook. Available at <https://www.ilo.org/wesodata/> (accessed on 8 August 2022).

⁵⁰ Organisation for Economic Co-operation and Development (OECD) and FAO, *OECD-FAO Agricultural Outlook 2021–2030* (Paris, OECD Publishing, 2021).

the fair and equitable sharing of the benefits arising out of their use, in harmony with CBD, for sustainable agriculture and food security.

For new plant varieties, more than half of African countries are yet to ratify UPOV.⁵¹ In this respect, the predecessor of the AU, the Organisation of African Unity, developed its Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources in 2000, which grants greater recognition to the cultivation practices of Africa's indigenous communities as an alternative to UPOV. This also responded to the obligation set out in TRIPS⁵² for all WTO members to protect plant varieties through patents, an effective sui generis system,⁵³ or a combination of systems. On the other hand, the OAPI member States have ratified UPOV, and OAPI became the second intergovernmental organization, following the European Union, to become a member in 2014.

Another regional initiative on IPR to promote agricultural development is GIs. In recognition of the importance and need for an overarching strategy on GIs to contribute to different programmes relating to agricultural sector development and the SDGs, the AU adopted the *Continental Strategy for Geographical Indications in Africa 2018– 2023* (GISA) in 2017.

GISA provides a background to GIs in Africa and their implementation, with a view to supporting food security and sustainable rural development, as well as encouraging

trade within and outside the continent, and the consequent economic development of the continent.⁵⁴ It does not focus on the form of legal protection, but rather encompasses both sui generis and trademark approaches, including collective and certification marks, to protecting GIs.⁵⁵ The strategy paved ways for local farmers, associations and authorities to promote local products, including those of rural areas, by leveraging GIs to add the value of local know-how and products.

African countries could formulate IP protection systems based on the social, industrial and commercial needs of countries. For instance, to promote agricultural innovation in Africa, policymakers have two models of R&D to possibly support. One is to promote agribusiness, including the seed industry, often driven by transnational corporations such as multinational biotech companies. This relies upon private monopolies and genetically modified crops, aiming at producing food for a market and the consumption of purchased goods. The other is led by local and often small-scale farmers, with support from the public sector, and is based on the collective use of TK and GRs for their own food production for sustainable agriculture.⁵⁶ Other considerations should also be given to agroprocessing, value addition and marketing which are governed by other IP regimes such as patents, utility models, industrial design and trademarks. Increase of use of digital technologies for agriculture also brings in copyright for software applications.

51 As at 3 November 2021, 24 African countries have ratified UPOV (i.e. are members of the International Union for the Protection of New Varieties of Plants), including Egypt, Ghana, Kenya, Morocco, South Africa, Tunisia and the United Republic of Tanzania, and the 17 OAPI member States. International Union for the Protection of New Varieties of Plants, "Members of the International Union for the Protection of New Varieties of Plants", 3 November 2021. Available at https://www.upov.int/edocs/pubdocs/en/upov_pub_423.pdf.

52 WTO, *Agreement on Trade-Related Aspects of Intellectual Property Rights* (Geneva, 1994), art. 27.3(b).

53 Sui generis measures are specialized measures aimed exclusively at addressing characteristics of specific subject matter such as TK, TCEs and GRs. WIPO, "DL-101: general course on intellectual property. Module 11".

54 AU, *Continental Strategy for Geographical Indications in Africa 2018–2023* (Addis Ababa, 2017).

55 UNCTAD, *Implications of the African Continental Free Trade Area for Trade and Biodiversity: Policy and Regulatory Recommendations* (Geneva, 2021), p. 26.

56 Perkins Muredzi and Emmanuel Sackey, *Food Security and IPR's: Lessons from Sub Saharan Africa* (Riga, Lambert Academic Publishing, 2013).



IP awareness is important among small and medium-sized enterprises in Africa

Photo: Martin Thaulow/Good people

Agriculture in the majority of African countries is still largely subsistence. Agricultural technologies and innovation could possibly focus on local crops and be developed in negotiation with domestic farmers.⁵⁷ However, marketing new agriculture technology to smallholder subsistence farmers has its own challenges since many live in impoverished, remote regions with inadequate or non-existent infrastructure that makes science and scientists difficult and expensive to reach. Smallholder subsistence farmers can also be reluctant to depart from traditional practices due to local, culturally specific beliefs and socioeconomic values.⁵⁸ Nonetheless, supporting the development and transfer of agricultural technology could be carried out by either the public or the private sector.

Relevant IPR policies on patents, GIs, TK, GRs and new plant variety protection should be crafted, taking into account each country's R&D landscape as well as strategy and vision for agricultural development.

5.3. Industrialization

Industrialization is a central issue for Africa's sustainable development, and IPR, in particular patents, utility models and industrial designs, are highly relevant to the manufacturing industry. The 2030 Agenda for Sustainable Development's Goal 9, "Build resilient infrastructure, promote sustainable industrialization and foster innovation", sets a Target 9.5 "Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries ..., encouraging innovation and substantially increasing the number of research and development

⁵⁷ Uchenna Felicia Ugwu, "Harnessing digital agriculture to advance African food security: open AIR research charts the way forward", *Open AIR*, 26 June 2018.

⁵⁸ UNCTAD, *Technology and Innovation Report 2021* (Geneva, 2021), p. 77.

workers per 1 million people and public and private research and development spending", emphasizing the importance of R&D and innovation for industrial development. The United Nations, through the adoption of the third industrial development decade for Africa at the General Assembly (A/RES/70/293), has further reaffirmed the importance of supporting Africa's industrialization efforts.

At continental level, one of the priority areas of Agenda 2063's Target 4, "Transformed economies", of Aspiration 1, "A prosperous Africa, based on inclusive growth and sustainable development", was set as "STI-driven manufacturing/industrialization and value addition" to promote Africa's economic transformation. In addition, the AU also developed the Action Plan for the Accelerated Industrial Development of Africa, a strategy which aims to mobilize both financial and non-financial resources and increase Africa's industrial competitiveness with the rest of the world.

Despite playing a crucial role in economic development, industrialization in Africa continues to face challenges. For instance, Africa only accounts for 2 per cent of world manufacturing value added (MVA), and the average world MVA per capita is almost nine times higher than that of Africa. Africa's market share in manufacturing exports also lags far behind, accounting for only roughly 1.3 per cent of world exports in 2019, while primary goods account for 8.8 per cent.⁵⁹ In terms of employment, the manufacturing sector accounts for just 6.2 per cent of total employment in Africa.⁶⁰

Among different varieties of IPR, patents (chemicals, drugs, plastics, engines, turbines, electronics, and industrial control and scientific equipment), utility models (mechanical industry) and industrial designs (clothing, automobiles, electronics, furniture, etc.) are likely to be the most relevant modalities in relation to industrial policies,⁶¹ and the TRIPS Agreement requires minimum standards for patents and industrial design protections, limiting policy spaces for contracting countries, in addition to other bilateral trade agreements. While the formal policy space is important, how countries engage with global regulations is also significant. In some cases, countries have chosen a very rapid integration into the global economy, while in others, governments have used the available industrial policy instruments and institutions to ensure a much more gradual approach.

The clear relationship between industrial development and IPR protection is inconclusive. Empirical research indicated that many successful catching-up episodes of industrialization occurred under conditions of relatively weak IPR regimes, allowing easier knowledge acquisition and imitation. Conversely, strong IPR regimes are vigorously promoted mainly by developed economies on the innovation frontier.⁶² In this respect, for African countries in early stages of industrial development, in particular the 33 African LDCs, IP regimes could limit the scope of patent protection and other IPR as far as compatible with the country's international obligations, including TRIPS.⁶³ It should be also noted that the deadline for LDCs to protect IP under TRIPS was extended until 1 July 2034, and African countries continue to

59 UNIDO, *African Industrial Competitiveness Report: An Overview of the Manufacturing Industry in the Region* (Vienna, 2020).

60 ILO, *Report on Employment in Africa (Re-Africa): Tackling the Youth Employment Challenge* (Geneva, 2020).

61 Correa, "Intellectual property".

62 Mario Cimoli, Benjamin Coriat and Annalisa Primi, "Intellectual property and industrial development: a critical assessment", in *Industrial Policy and Development: The Political Economy of Capabilities*, Mario Cimoli, Giovanni Dosi and Joseph E. Stiglitz, eds. (Oxford, Oxford University Press, 2009).

63 Correa, "Intellectual property".

have a policy space for more than 10 years to adjust and implement balanced IP policies and strategies to promote industrialization.

At a micro level, the degree of legal protection granted to innovation through the IP system will determine companies' willingness to invest in R&D for innovation.⁶⁴ In this respect, IP awareness is also important among small and medium-sized enterprises, as these companies generally drive economic growth and job creation in Africa, and those that embrace IPR tend to fare better in terms of growth, income and employment than those that are unaware of how IP can support their business.⁶⁵ At a macro level, mostly mature technologies are incorporated through informal channels of technology transfer (such as the acquisition of machinery and equipment, reverse engineering, and subcontracting), as well as through formal modes of transfer (foreign direct investment) at the initiation stage of industrial development. At this initiation stage, therefore, the IPR regime is unlikely to be relevant in a significant way for promoting local innovation.⁶⁶ Policymakers, therefore, need to find ways to promote industrialization and enhance manufacturing capabilities and productivity through carefully crafted and nuanced IP policies and regulations.

⁶⁴ WTO, *World Trade Report 2020: Government Policies to Promote Innovation in the Digital Age* (Geneva, 2020), p. 82.

⁶⁵ McLean Sibanda and Tom Peter Migun Ogada, "Boosting business competitiveness in Africa with IP and innovation", *WIPO Magazine*, October 2019.

⁶⁶ Correa, "Intellectual property".

6. IPR policies in Africa – challenges and opportunities



There are also African patent offices that issue strong patents.

Photo: Arne Hoel/The World

Setting up appropriate IP regimes and their effective implementation to establish an enabling environment to promote Africa's knowledge-based economic development are important as outlined. Both challenges and opportunities for this goal are present in Africa, as elaborated below.

6.1. Challenges

6.1.1 LIMITED UTILIZATION OF IPR AND INSTITUTIONAL CAPACITIES

As outlined earlier, Africa's utilization of IPR, whether patents, trademarks, industrial designs, copyrights or other forms of IPR, is very limited compared to other parts of the world. Also, most patent registrations are filed by non-residents. The reasons for the low level of patent protection by African residents may be attributed to a number of factors. These

include relatively weak science and technology capacity, inadequate research facilities and funding, inadequate IP awareness, the high cost of processing patent applications, the complexity of maintenance of patents, the cost of enforcement of rights in case of infringement, and subsequent patent litigations.⁶⁷ For example, research indicates that Africa has some of the highest patent registration fees in the world. It is more expensive to register a patent in Côte d'Ivoire, Kenya, or Senegal than it is in Canada, Japan or the United Kingdom. In GDP per capita terms, fees are even more prohibitive. For example, patent registration fees in Kenya, Senegal and Ethiopia are respectively 13.3, 10.2 and 7.9 times their GDP per capita, while the same ratios for the United States of America, Germany and Malaysia are respectively 0.1, 0.3 and 0.4.⁶⁸ These avoidable costs create a high barrier to register patents and, therefore, to innovation.

Research has shown many more shortcomings. Many African patent offices are not fit for purpose due to limited resources.⁶⁹ The patent systems of many African countries have limited safeguards and quality control mechanisms necessary to ensure that only inventions that meet the requisite threshold are conferred with patent protection, as many African patent offices do not conduct substantive examinations. African IPR offices were statutorily and procedurally designed to be mere receptacles for foreign applications, with little or no intellectual interventions by domestic IPR practitioners and administrators

due to the colonial legacy.⁷⁰ Many African countries have limited infrastructure needed to ensure that the information contained in patent applications is collated and made electronically available to the public, including researchers and technology-oriented industries.⁷¹ While widely disseminating information of patented inventions for technology advancement purposes is one of the *raisons d'être* of the patent regime, this is not the case in many African countries.

However, it should be noted that there are patent offices that issue strong patents, as exemplified by the Egyptian patent office, accredited as an international searching authority and international preliminary examining authority under the Patent Cooperation Treaty,⁷² demonstrating considerable investment in building technical competencies and infrastructure. To obtain this status, the Egyptian patent office meets the criteria on sufficiency and competence of its personnel and technical experts; maintenance and use of patent, science, and engineering databases; implementation of a quality control management system; and achieving recognition by other patent offices.⁷³

There is also weak legal enforcement of IPR, which may explain the low numbers of patent applications in Africa. This also results in large numbers of piracy and counterfeit of various products on the continent, including online piracy. Without this enforcement, entrepreneurs

67 Philippe Rafita Rasoanaivo, "Challenges of patenting and commercializing innovation in Africa", *Bulletin de l'Académie Malgache*, vol. 91, No. 2 (2014).

68 Songwe, "A continental strategy for economic diversification through the AfCFTA and intellectual property rights".

69 Ikechi Mgbeoji, "African patent offices not fit for purpose", in *Innovation & Intellectual Property: Collaborative Dynamics in Africa*, De Beer, Armstrong, Oguamanam and Schonwetter eds. (Claremont, University of Cape Town Press, 2014).

70 Ikechi Mgbeoji, "The comprador complex: Africa's IPRs elite, neo-colonialism and the enduring control of African IPRs agenda by external interests" Osgoode legal studies research paper series, No. 32 (Toronto, York University, 2014).

71 Mgbeoji, "African patent offices not fit for purpose".

72 WIPO, "The PCT applicant's guide", 4 August 2022.

73 UNECA, "Intellectual property protocol".

and developers may not feel motivated to innovate, lacking incentive to pursue creative activities that change lives and create jobs.⁷⁴

6.1.2. BROADER HISTORICAL BACKGROUND AND GEOPOLITICAL DYNAMICS

When assessing international agreements and national regulations on IPR in Africa, it is necessary to take into account Africa's historical colonial background and current geopolitical dynamics after African countries' independence. In this respect, it is important to note that when IP agreements were adopted during the colonial era, it was largely in the interest of the colonizing State and not the colonial subject. As a result, upon the attainment of independence, many African countries inherited a body of international IP obligations that were not necessarily negotiated and concluded in their best interests.⁷⁵ By the time of decolonization in the mid twentieth century, it was widely recognized that developing countries benefited from relaxed IP protections. However, based on efforts to retain the memberships of newly independent African countries made by the Bureaux Internationaux Réunis pour la Protection de la Propriété Intellectuelle, the precursor to WIPO, and by a number of transnational organizations to promote a perspective of robust IP protections as essential for economic prosperity, most African countries declared continued membership in the international IP regime shortly after gaining independence.⁷⁶

The TRIPS Agreement of the Uruguay Round in 1994 raised the standard of IPR regulations by setting the international minimum standards. TRIPS also sought to globalize IPR in a manner that maximizes the interests of authors, inventors and creators. Accordingly, since developed countries dominated the creative world, TRIPS is rather favourable to them and a disadvantage to developing countries.⁷⁷

Apart from TRIPS, there are several other multilateral and bilateral trade agreements which include clauses of IP that have troubling implications for human development in developing countries. Many of these agreements are more stringent than the TRIPS Agreement and considerably diminish the room for manoeuvre for developing countries. Countries that have signed onto these agreements cannot take advantage of the flexibilities in TRIPS. These agreements go beyond TRIPS in terms of IPR protection.⁷⁸ For instance, the EU and the United States of America use a TRIPS-plus strategy for bilateral agreements, as observed in the Euro-Mediterranean Association Agreements, EU-Morocco Association Agreement and United States of America-Morocco Free Trade Agreement. Kenya has recently started negotiating a free trade agreement with the United States of America. As Kenya is a member of COMESA and EAC, any agreement on IPR will also impact these RECs and ultimately the AfCFTA.⁷⁹ The United States of America annually publishes the *Special 301 Report* prepared by the Office of the United States Trade Representative. It reflects the outcome of a congressionally mandated annual

⁷⁴ Louis Otieno, "Africa and intellectual property rights: where do we stand?", *Vanguard*, 4 May 2017.

⁷⁵ Ncube, *Science, Technology & Innovation and Intellectual Property*, p. 36.

⁷⁶ Jeremy de Beer, Jeremiah Baarbé and Caroline B. Ncube, "Evolution of Africa's intellectual property treaty ratification landscape", *African Journal of Information and Communication Studies*, vol. 22 (2018).

⁷⁷ Enyinna S. Nwauche "A development oriented intellectual property regime for Africa", presentation at the eleventh general assembly of the Council for the Development of Social Science Research for Africa, Maputo, 6–10 December 2005.

⁷⁸ Elbeshbishi, "TRIPS and public health".

⁷⁹ Ncube, *Science, Technology & Innovation and Intellectual Property*, pp. 61–64.

review of the global state of IPR protection and enforcement, putting pressure on the United States of America's trade partners to provide adequate and effective IP protection and enforcement for American IP.⁸⁰

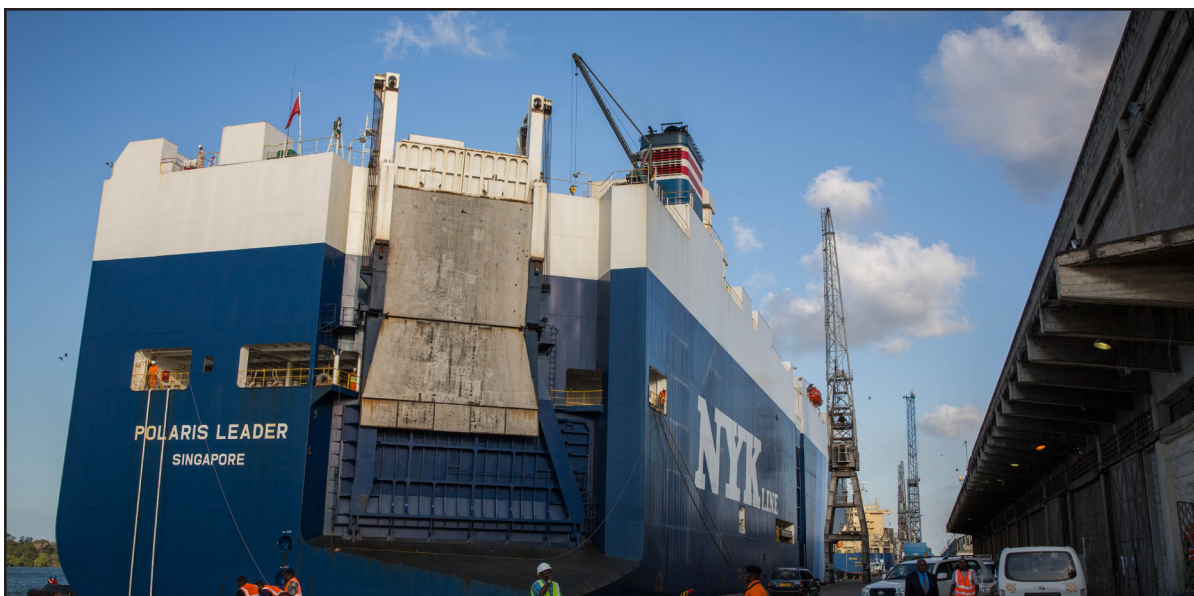
6.1.3. DIVERGENCES BETWEEN GLOBAL NORTH AND GLOBAL SOUTH ON IPR

The economic structure of the world has been rapidly transformed into a knowledge-based economy. In this new economic structure, the production of goods and services is based principally on knowledge-intensive activities that contribute to advancement in technical and scientific innovation. The role of IPR has become increasingly important, as it protects the creations of the human mind. On the other hand, there has been a wide divergence of approach to IPR between developed countries with advanced R&D and innovation systems that intend to strengthen IP protections, and developing countries including LDCs that strive to catch up, accumulate and promote IP with greater and flexible IPR policy spaces. The divergence was heightened with the adoption of the TRIPS Agreement. Though there are flexibilities set by TRIPS, the implementation of these flexibilities has turned out to be overly complex and cumbersome, leading to tensions between the global North and South.

There has also been a long-standing divergence of perspective between developing countries, including African countries, and various developed countries on TK and GRs, which are rich in developing countries. For instance, at the WTO on biodiversity, TK and patenting of life forms, multilateral IP negotiation has not been able to address concerns posed by developing countries, including Africa. The substantive issues covered included whether patent applicants should be required to disclose the origin of GRs and any TK used in inventions, and whether life forms should be patentable. Similarly, in the WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), African countries have consistently advocated for recognition of the central importance of the interplay between IP on the one hand, and TK, indigenous cultural expressions and GRs on the other.⁸¹ However, this view is not shared by some developed countries. As a result, international negotiations within the IGC have been unable, as yet, to yield agreement on an international instrument for the protection of relevant subject matter from misappropriation.

⁸⁰ The *2021 Special 301 Report* puts a spotlight on countries with laws, policies and practices that do not provide adequate and effective IP protection and enforcement for American inventors, creators, brands, manufacturers and service providers. Concerning African countries, Algeria and Egypt are currently on the watch list. Office of the United States Trade Representative, *2021 Special 301 Report* (Washington, D.C., 2021).

⁸¹ Nkomo, Mthombeni and Lehong, "The African Continental Free Trade Area".



The recent launch of the AfCFTA provides immense opportunities to advance a continental approach to a balanced IP rights system

Photo: Rob Beechey/World Bank

6.2. Opportunities

6.2.1. EXISTING INTELLECTUAL PROPERTY POLICY SPACES AND FLEXIBILITIES

Flexibilities in the international treaties and agreements can facilitate development, because countries can use them in a manner that enables them to pursue their own public policies, either in specific fields like access to pharmaceutical projects or protection of their biodiversity, or more generally in establishing macro- and microeconomic and institutional conditions that support development.⁸² Such flexibilities are inherent in the TRIPS Agreement and may concern patents, copyrights or other forms of IPR

The recent COVID-19 pandemic and following global discussions on the IP waiver for vaccines revealed, however, that the implementation of TRIPS flexibilities poses various challenges to developing countries. These include compulsory licensing,⁸³ which is required to be issued in each country on a case-by-case and product-by-product basis, and in which it is difficult to track the multiple patents on single products that may not be publicly known, increasing the threat of infringement claims. It should also take into account the complex of nature of, among other things, vaccines, biologics and diagnostic tests, which are not only covered by multiple patents, but also by additional IP protections in the form of copyrights, industrial designs, trade secrets, clinical trial data, manufacturing know-how and other information. Developing countries

⁸² WIPO, "DL-101 general course on intellectual property. Module 10: protection of new varieties of plants", 2019. Available at <https://welc.wipo.int/aipt/aiptCourses> (accessed on 8 August 2022).

⁸³ Compulsory licensing is when a government allows someone else to produce a patented product or process without the consent of the patent owner or plans to use the patent-protected invention itself. It is one of the flexibilities in the field of patent protection included in the TRIPS Agreement. WTO, "Compulsory licensing of pharmaceuticals and TRIPS", no date. Available at (accessed on 8 August 2022).

also need to domesticate the provisions of the waiver, if it is passed, into national law, through legislative, administrative or executive actions, depending on their unique legal systems.⁸⁴ This poses challenges in the urgent need to implement flexibilities under the pandemic. Based on lessons from the pandemic, African countries could initiate some steps towards facilitating and domesticating TRIPS flexibilities, in particular in the area of public health.

African countries also vary considerably in their membership in a number of other relevant treaties and trade agreements, though international norms are largely set by TRIPS. Furthermore, implementation and enforcement at national level in each country differs. Africa's unique approaches to IP law-making and policymaking can produce benefits in terms of more inclusive innovation and, in turn, more inclusive and sustainable technological and economic development.⁸⁵

6.2.2. THE AFRICAN CONTINENTAL FREE TRADE AREA AND THE ESTABLISHMENT OF THE PAN- AFRICAN INTELLECTUAL PROPERTY ORGANIZATION

The recent launch of AfCFTA provides immense opportunities to advance a continental approach to a balanced IPR system that responds to the aspirations contained in Agenda 2063 and targets in the 2030 Agenda for Sustainable Development. Article 4 of the AfCFTA Agreement prescribes the cooperation of State parties on investment, IPR and competition policy. While 44 African countries are members of WTO, which would influence the design of the IPR protocol, each African country has different obligations beyond

WTO.⁸⁶ Some IPR continental arrangements at regional and subregional levels, such as RECs and the two regional IP organizations ARIPO and OAPI, have divergent approaches, policies and strategies, and overlapping memberships. The AfCFTA IPR Protocol affords AU member States the opportunity to reflect on how best to achieve policy coherence within and between these initiatives. This process can also be used to develop mechanisms to facilitate better coordination at multilateral forums.

For the AfCFTA IP protocol to be viable, it could provide for non-discrimination among nationals of States parties on matters of IPR; develop norms to safeguard African interests, including non-discrimination among African countries on matters pertaining to IPR; and establish a regional IP exhaustion system to prevent fragmentation of the AfCFTA market and encourage regional value chain development, among other provisions.⁸⁷ It could also prioritize, set standards and articulate requirements in different forms of IPR, for IPR to be a catalyst for value creations, transfer of technology and know-how, information and technology diffusion, and the economic transformation (including industrialization) of Africa's economy, from one that is primary resource based, to one driven by knowledge, information and ideas based on STI.

The IP Protocol of AfCFTA could also provide an enabling environment in the protection of innovation, building on already existing regional IP organizations, ARIPO and OAPI, and the various IP instruments of the RECs, those made by COMESA, EAC, ECOWAS and SADC.

⁸⁴ Vawda, "The TRIPS COVID-19 waiver, challenges for Africa and decolonizing intellectual property".

⁸⁵ Ncube, *Science, Technology & Innovation and Intellectual Property*.

⁸⁶ Ibid.

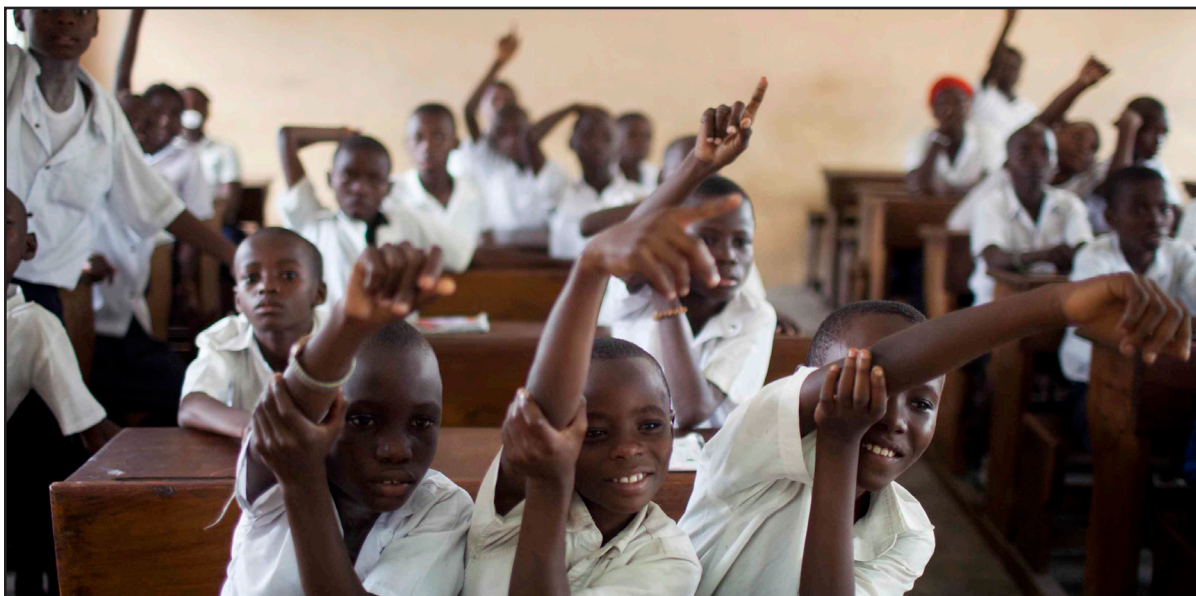
⁸⁷ Ibid.

The establishment of the Pan-African Intellectual Property Organization (PAIPO) provides another opportunity. PAIPO was expected to be fully functional by 2023 according to the *First 10 Year Implementation Plan of Agenda 2063* under Aspiration 2, "An integrated continent, politically united and based on the ideals of pan-Africanism and vision of African renaissance". PAIPO's statute was adopted in 2016, which stipulates in its mandate that PAIPO shall be responsible for IP and other emerging issues related to IP in Africa, and shall promote effective use of the IP system as a tool for economic, cultural, social and technological development of the continent, as well as set IP standards that reflect the needs of the AU, its member States and RECs, ARIPO and OAPI.⁸⁸ The AU's STISA-2024 also acknowledges PAIPO's mandate to ensure dissemination of patent information, provide technical and financial support to invention and innovation,

and promote protection and exploitation of research results.⁸⁹ However, 15 ratifications are required for the statute to enter into force, while it has been signed by only six States.⁹⁰ It may be a challenge for PAIPO to become fully functional by 2023, but the initiative nevertheless demonstrates the AU's firm commitment to establish the first continental IP institution, which might help promote harmonization of the fragmented IPR frameworks and regulations that Africa is currently facing.

6.2.3. YOUTH BULGE AND RICH TRADITION AND CULTURE

Africa is the world's youngest continent, with around 60 per cent of the population of 1.3 billion in 2019 under the age of 25. The population of Africa is projected to reach 2.5 billion by 2050, at which point it will include 26 per cent of the world's projected working age population. There is a strong



Africa's future generations should fully leverage the continent's rich traditions and culture to promote development.

Photo: Dominic Chavez/World Bank

⁸⁸ AU, *Statute of the Pan-African Intellectual Property Organization* (Addis Ababa, 2016).

⁸⁹ AU, *Science, Technology and Innovation Strategy for Africa 2024* (Addis Ababa, 2020).

⁹⁰ Chad, Comoros, Ghana, Guinea, Sierra Leone and Tunisia. AU, "List of countries which have signed, ratified/acceded to the statute of the Pan African Intellectual Property Organization (PAIPO)", 28 June 2019.

imperative to create jobs for young people entering the continental labour market every year. If Africa is to be able to benefit from its demographic dividend, it needs to absorb its 252 million youth (aged 15–24) in productive activities. On the other hand, Africa's informal sector accounts for more than 85 per cent of economic activity, while 80 per cent of businesses in Africa are categorized as small- and medium-sized enterprises.⁹¹

As the knowledge-based economy has been rapidly expanding along with the progress of the fourth industrial revolution, many young entrepreneurs and job seekers are entering information and communications technology (ICT) industries. This supports the digital economy and the progressive liberalization of such services that will drive stronger digital trade across the continent. E-commerce in Africa is growing at 40 per cent annually, and is expected to grow to over US\$300 billion by 2025.⁹² With an increasingly digitized economy and a store of innovative youth, working on IP registration and protection will be key to harnessing the full potential of youth and promoting a knowledge-based digital economy.

Africa is also a continent with rich and diverse culture and heritage, both in tangible and intangible forms. About 2,000 languages are estimated to be spoken in Africa,⁹³ and there are a total of 137 properties registered as world heritage in 42 African countries.⁹⁴ Intangible forms of arts and culture – music, performance, dance, oral histories, theatre and cuisine – constitute essential parts of creativity

and invention of African people, in particular youth. Forthcoming African generations should fully leverage their rich tradition and culture consisting of a variety of knowledge, know-how, skills and practices that ought to be considered as IP, as previously discussed regarding TK and TCEs. Nigeria's rapidly growing film industry – known as Nollywood – is a case in point to promote cultural and digital industries by leveraging IP regimes, such as copyrights.

Furthermore, Africa is immensely rich in biodiversity. Its living organisms comprise around a quarter of global biodiversity, and it supports the Earth's largest intact assemblages of large mammals.⁹⁵ Animal and plant GRs provide immense possibility for African people, including youth, to take advantage of promoting biotechnology in view of developing new, safe and nutritious foods and food products, as well as pharmaceutical products.

With proper guidelines on the protection of TK and TCEs, with the efforts made at regional, subregional and national levels in some African countries, local communities will be able to benefit economically through the transfer of this TK, including in the areas of agriculture and traditional medicines. The protection of TK which is provided must be both positive and defensive.⁹⁶ This will empower local communities to promote their TK, control its uses and benefit from its commercial exploitation, while preventing unauthorized uses such as biopiracy. African countries could further advance various industries based on both Africa's rich and diverse TK, TCEs and

91 James Manyika, Armando Cabral, Lohini Moodley, Suraj Moraje, Safoaduo Yeboah-Amankwah, Michael Chui and Jerry Anthonyrajah, "Lions go digital: the internet's transformative potential in Africa", *McKinsey & Company*, 1 November 2013.

92 Ibid.

93 Day Translations, "The thousands of languages in the African continent", 20 February 2018.

94 UNESCO, "World heritage list", no date. Available at <https://whc.unesco.org/en/list/> (accessed on 8 August 2022).

95 United Nations Environment Programme and World Conservation Monitoring Centre, *The State of Biodiversity in Africa* (Cambridge, 2016).

96 Positive protection is the granting of rights that empower communities to promote their TK, control its uses and benefit from its commercial exploitation. On the other hand, defensive protection aims to stop people outside the community from acquiring IPR over TK.

GR, as well as the creativity and innovation of its youth in the areas of ICT, biotechnology and other fields of STI. In this regard, African governments could fully leverage IPR systems that can protect the creations of innovators, facilitate the research efforts of scientists, catalyse the productivity of farmers, maximize benefits from TK and TCEs, and support the production processes of manufacturers.

7. Conclusion

Empirical evidence on the role of IP protection in promoting innovation and growth in general remains inconclusive. Conflicting views also persist on the impacts of IPR in development prospects. Nevertheless, the importance of IPR is growing, as the economic structure has rapidly been transformed into a knowledge-based economy in which there is no doubt that an understanding of IPR is indispensable for informed policymaking in all areas of development.⁹⁷ In advanced economies, an efficient system of IPR has been of crucial importance, given IPR's capacity to encourage creativity and innovation throughout the economy.⁹⁸ Policy measures in the areas of IP and R&D, as well as data protection, are increasingly used to secure competitive advantages under investment protectionism. However, stringent IP protection may restrict the use of frontier technologies that could be valuable in the important areas such as agriculture, health and energy to attain the SDGs and Agenda 2063.⁹⁹

Africa, on the other hand, which consists of a majority of developing countries including LDCs, requires a careful consideration of the socioeconomic reality of countries, tied with the need for a balanced IP system. There is no one-size-fits-all IPR system, even among African countries. African countries have different international and bilateral IPR

engagements. Two existing African regional IP organizations take different approaches to IPR among their member States, and several RECs also have distinct IPR policies and strategies at a subregional level. Taking into consideration various IP engagements, each African country has a different policy space to craft national IPR policies and strategies. In this respect, an evidence-based policy formulation should be promoted to adapt and implement calibrated IP policies and strategies, taking into account existing IP frameworks, industrial composition, market sizes, R&D environment and the advancement of industrialization, among other considerations. It is also important to reinforce relevant national institutional capacities for the IPR system to be made more effective, while maximizing available policy spaces, such as TRIPS flexibilities.

With lessons learned from the COVID-19 pandemic, and preparations for the full implementation of the AfCFTA, now is an opportune moment for Africa to promote favourable development-oriented IP policies at regional level, and to craft balanced and calibrated IP policies and strategies at national level. This will allow African countries to further leverage cutting-edge scientific and technological innovations, as well as their rich TK, TCEs and GRs, to promote

⁹⁷ John H. Barton, "Nutrition and technology transfer policies", Issue paper, No. 6 (Geneva, International Centre for Trade and Sustainable Development and UNCTAD, 2004).

⁹⁸ European Patent Office and European Union Intellectual Property Office, *IPR-Intensive Industries and Economic Performance in the European Union: Industry-Level Analysis Report* (Munich and Alicante, 2019).

⁹⁹ UNCTAD, *World Investment Report 2020: International Production Beyond the Pandemic* (New York, United Nations Publications, 2020), p. 52.

sustainable development, while providing opportunities in particular to young innovators, creators and entrepreneurs in Africa.

The recently published *Global Innovation Index 2021* reported that sub-Saharan Africa is the region with the highest number – six – of economies performing above expectations on innovation,¹⁰⁰ indicating great potential for Africa to fully leverage the IP system. The subsequent policy papers will provide analysis on the potential roles of IP in promoting sustainable development in Africa and selected case studies.

¹⁰⁰ Kenya, Madagascar, Malawi, Rwanda, South Africa and Tunisia. WIPO, *Global Innovation Index 2021* (Geneva, 2021).

List of acronyms

AfCFTA	African Continental Free Trade Area
ARIPO	African Regional Intellectual Property Organization
AU	African Union
CBD	Convention on Biological Diversity
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross domestic product
GI	Geographical indication
GR	Genetic resource
ICT	Information and communication technology
IGC	Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore
ILO	International Labour Organization
IP	Intellectual property
IPR	Intellectual property rights
LDC	Least developed country
MVA	Manufacturing value added
OAPI	African Organization of Intellectual Property
OSAA	United Nations Office of the Special Adviser on Africa

PAIPO	Pan-African Intellectual Property Organization
R&D	Research and development
REC	Regional economic community
SADC	Southern African Development Community
STI	Science, technology and innovation
STISA-2024	Science, Technology and Innovation Strategy for Africa 2024
T&CM	Traditional and complementary medicines
TK	Traditional knowledge
TCEs	Traditional cultural expressions
TRIPS	Trade-Related Aspects of Intellectual Property Rights Agreement
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UPOV	International Union for the Protection of New Varieties of Plants
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

Bibliography

African Regional Intellectual Property Organization. Member States IP policies. No date. Available at <https://www.aripo.org/member-states-ip-policies/>. Accessed on 5 August 2022.

African Union. *Continental Strategy for Geographical Indications in Africa 2018–2023*. Addis Ababa, 2017.

African Union. *First 10 Year Implementation Plan of Agenda 2063*. Addis Ababa, 2015.

African Union. List of countries which have signed, ratified/acceded to the Statute of the Pan African Intellectual Property Organization (PAIPO). 28 June 2019.

African Union. *Science, Technology and Innovation Strategy for Africa 2024*. Addis Ababa, 2020.

African Union. *Statute of the Pan-African Intellectual Property Organization*. Addis Ababa, 2016.

African Union. Treaty for the establishment of the African Medicines Agency (AMA) enters into force. 9 November 2021.

Barton, John H. Nutrition and technology transfer policies. Issue paper, No. 6. Geneva, International Centre for Trade and Sustainable Development and UNCTAD, 2004.

Cimoli, Mario, Benjamin Coriat, and Annalisa Primi. Intellectual property and industrial development: a critical assessment. In *Industrial Policy and Development: The*

Political Economy of Capabilities, Mario Cimoli, Giovanni Dosi and Joseph E. Stiglitz, eds. Oxford, Oxford University Press, 2009.

Common Market for Eastern and Southern Africa. *COMESA Policy on Intellectual Property Rights*. 2011,

Cornell University, INSEAD and World Intellectual Property Organization. *Global Innovation Index 2020: Who Will Finance Innovation?* (Ithaca, Fontainebleau and Geneva, 2020).

Correa, Carlos M. Intellectual property: how much room is left for industrial policy? Discussion paper, No. 223. Geneva, 2015.

Day Translations. The thousands of languages in the African continent. 20 February 2018.

De Beer, Jeremy, Jeremiah Baarbé, and Caroline B. Ncube. Evolution of Africa's intellectual property treaty ratification landscape. *African Journal of Information and Communication Studies*, vol. 22 (2018).

Dlamini, Petros P.N., and Khanyile Nokwanda. Preservation of traditional medicinal knowledge: initiatives and techniques in rural communities in KwaZulu-Natal. *Library Philosophy and Practice* (2021).

Duke University's Center for the Study of the Public Domain. Public domain frequently asked questions. 2011.

Elbeshbishi, Amal Nagah. TRIPS and public health: what should African countries do? African Trade Policy Centre work in progress, No. 49. Addis Ababa, UNECA, 2007.

Ekpere, Johnson A. *The OAU's Model Law: The Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources. An Explanatory Booklet*. Lagos, Organization of African Unity, 2000.

European Patent Office and European Union Intellectual Property Office. *IPR-Intensive Industries and Economic Performance in the European Union: Industry-Level Analysis Report*. Munich and Alicante, 2019.

International Labour Organization. Data finder. World Employment and Social Outlook. Available at <https://www.ilo.org/wesodata/>. Accessed on 8 August 2022.

International Labour Organization. *Report on Employment in Africa (Re-Africa): Tackling the Youth Employment Challenge*. Geneva, 2020.

International Union for the Protection of New Varieties of Plants. Members of the International Union for the Protection of New Varieties of Plants. 3 November 2021. Available at https://www.upov.int/edocs/pubdocs/en/upov_pub_423.pdf.

Ismail, Faizel. The WTO TRIPS waiver should help build vaccine manufacturing capacity in Africa. Policy brief, No. 97. Geneva, South Centre, 2021.

Mbatia, Lorna, and Brenda Vilita. AfCFTA: how intellectual property laws can help create jobs. *Africa Renewal*, 5 January 2021.

Nelson Mandela School of Public Governance. *Pharmaceuticals, Health Care Value Chains and Health Resilience: Summary Report*. Claremont, University of Cape Town Press, 2021.

Manyika, James, Armando Cabral, Lohini Moodley, Suraj Moraje, Safooadu Yeboah-Amankwah, Michael Chui, and

Jerry Anthonyrajah. Lions go digital: the internet's transformative potential in Africa. *McKinsey & Company*, 1 November 2013.

Mgbeoji, Ikechi. African patent offices not fit for purpose. In *Innovation & Intellectual Property*, Jeremy de Beer, Chris Armstrong, Chidi Oguamanam, and Tobias Schonwetter eds. Claremont, University of Cape Town Press, 2014.

Mgbeoji, Ikechi. The comprador complex: Africa's IPRs elite, neo-colonialism and the enduring control of African IPRs agenda by external interests. Osgoode legal studies research paper series, No. 32. Toronto, York University, 2014.

Motari, Marion, Jean-Baptiste Nikiema, Ossy M. J. Kasilo, Stanislav Kniazkov, Andre Loua, Aissatou Sougou, and Prosper Tumusiime. The role of intellectual property rights on access to medicines in the WHO African region: 25 years after the TRIPS Agreement. *BMC Public Health*, vol. 21 (2021).

Muredzi, Perkins, and Emmanuel Sackey. *Food Security and IPR's: Lessons from Sub Saharan Africa*. Riga, Lambert Academic Publishing, 2013.

Ncube, Caroline B. *Science, Technology & Innovation and Intellectual Property: Leveraging Openness for Sustainable Development in Africa*. Cape Town, Juta and Company, 2021.

Nkomo, Marumo, Jabulani Mthombeni, and Trod Lehong. The African Continental Free Trade Area: a significant role for IP. *WIPO Magazine*, December 2020.

Nwauche, Enyinna S. A development oriented intellectual property regime for Africa. Presentation at the eleventh general assembly of the Council for the Development of Social Science Research for Africa, Maputo, 6–10 December 2005.

Office of the United States Trade Representative. *2021 Special 301 Report*. Washington, D.C., 2021.

Okaiyeto, Kunle and Oluwafemi O. Oguntibeju. African herbal medicines: adverse effects and cytotoxic potentials with different therapeutic applications. *International Journal of Environmental Research and Public Health*, vol. 18, No. 11 (2021).

Organisation for Economic Co-operation and Development and Food and Agriculture Organization of the United Nations. *OECD-FAO Agricultural Outlook 2021–2030*. Paris, OECD Publishing, 2021.

Otieno, Louis. Africa and intellectual property rights: where do we stand? *Vanguard*, 4 May 2017.

Rasoanaivo, Philippe Rafita. Challenges of patenting and commercializing innovation in Africa. *Bulletin de l'Académie Malgache*, vol. 91, No. 2 (2014).

Sibanda, McLean, and Tom Peter Migun Ogada. Boosting business competitiveness in Africa with IP and innovation. *WIPO Magazine*, October 2019.

Songwe, Vera. A continental strategy for economic diversification through the AfCFTA and intellectual property rights. *Brookings*, 8 January 2020.

Southern African Development Community. *Regional Intellectual Property Framework and Guidelines*. Gaborone, 2018.

Southern African Development Community. The joint meeting of the SADC ministers responsible for education and training; and science, technology and innovation, 20–21 June 2019 Safari Hotel Windhoek, Namibia. 21 June 2019.

Ugwu, Uchenna Felicia. Harnessing digital agriculture to advance African food security: open AIR research charts the way forward. *Open AIR*, 26 June 2018.

United Nations Conference on Trade and Development. *Implications of the African Continental Free Trade Area for Trade and Biodiversity: Policy and Regulatory Recommendations*. Geneva, 2021.

United Nations Conference on Trade and Development. *Technology and Innovation Report 2021*. Geneva, 2021.

United Nations Conference on Trade and Development. *World Investment Report 2020: International Production Beyond the Pandemic*. New York, United Nations Publications, 2020.

United Nation Economic Commission for Africa. Intellectual property protocol. Addis Ababa, no date.

United Nation Economic Commission for Africa, African Union, African Development Bank, and United Nations Conference on Trade and Development. *Next Steps for the African Continental Free Trade Area: Assessing Regional Integration in Africa | ARIA IX*. Addis Ababa, 2019.

United Nations Environment Programme and World Conservation Monitoring Centre. *The State of Biodiversity in Africa*. Cambridge, 2016.

United Nations Educational, Scientific and Cultural Organization. Global investments in R&D. Fact sheet, No. 59. Paris, 2020.

United Nations Educational, Scientific and Cultural Organization. World heritage list. No date. Available at <https://whc.unesco.org/en/list/>. Accessed on 8 August 2022.

United Nations Industrial Development Organization. *African Industrial Competitiveness Report: An Overview of the Manufacturing Industry in the Region*. Vienna, 2020.

Vawda, Yousuf. The TRIPS COVID-19 waiver, challenges for Africa and decolonizing intellectual property. Policy brief, No. 99. Geneva, South Centre, 2021.

Vawda, Yousuf, and Bonginkosi Shozi. Eighteen years after Doha: an analysis of the use of public health TRIPS flexibilities in Africa. Research paper, No. 103. Geneva, South Centre, 2020.

World Health Organization. *Global Report on Traditional and Complementary Medicine*. Geneva, 2019.

World Intellectual Property Organization. DL-101: general course on intellectual property. Module 1: introduction. 2019. Available from <https://welc.wipo.int/aipt/aiptCourses>. Accessed on 8 August 2022.

World Intellectual Property Organization. DL-101 general course on intellectual property. Module 4: trademarks. 2019. Available at <https://welc.wipo.int/aipt/aiptCourses>. Accessed on 8 August 2022.

World Intellectual Property Organization. DL-101 general course on intellectual property. Module 10: protection of new varieties of plants. 2019. Available at <https://welc.wipo.int/aipt/aiptCourses>. Accessed on 8 August 2022.

World Intellectual Property Organization. DL-101: general course on intellectual property. Module 11: TK, TCE and GR. 2019. Available from <https://welc.wipo.int/aipt/aiptCourses> (accessed on 8 August 2022).

World Intellectual Property Organization. DL-101 general course on intellectual property. Module 12: IP and development – the WIPO development agenda. 2019. Available at <https://welc.wipo.int/aipt/aiptCourses>. Accessed on 8 August 2022.

World Intellectual Property Organization. Genetic resources, traditional knowledge and traditional cultural expressions. No date. Accessed 5 August 2022.

World Intellectual Property Organization. *Global Innovation Index 2021*. Geneva, 2021.

World Intellectual Property Organization. The PCT applicant's guide. 4 August 2022.

World Intellectual Property Organization. *What is Intellectual Property?* Geneva, 2020.

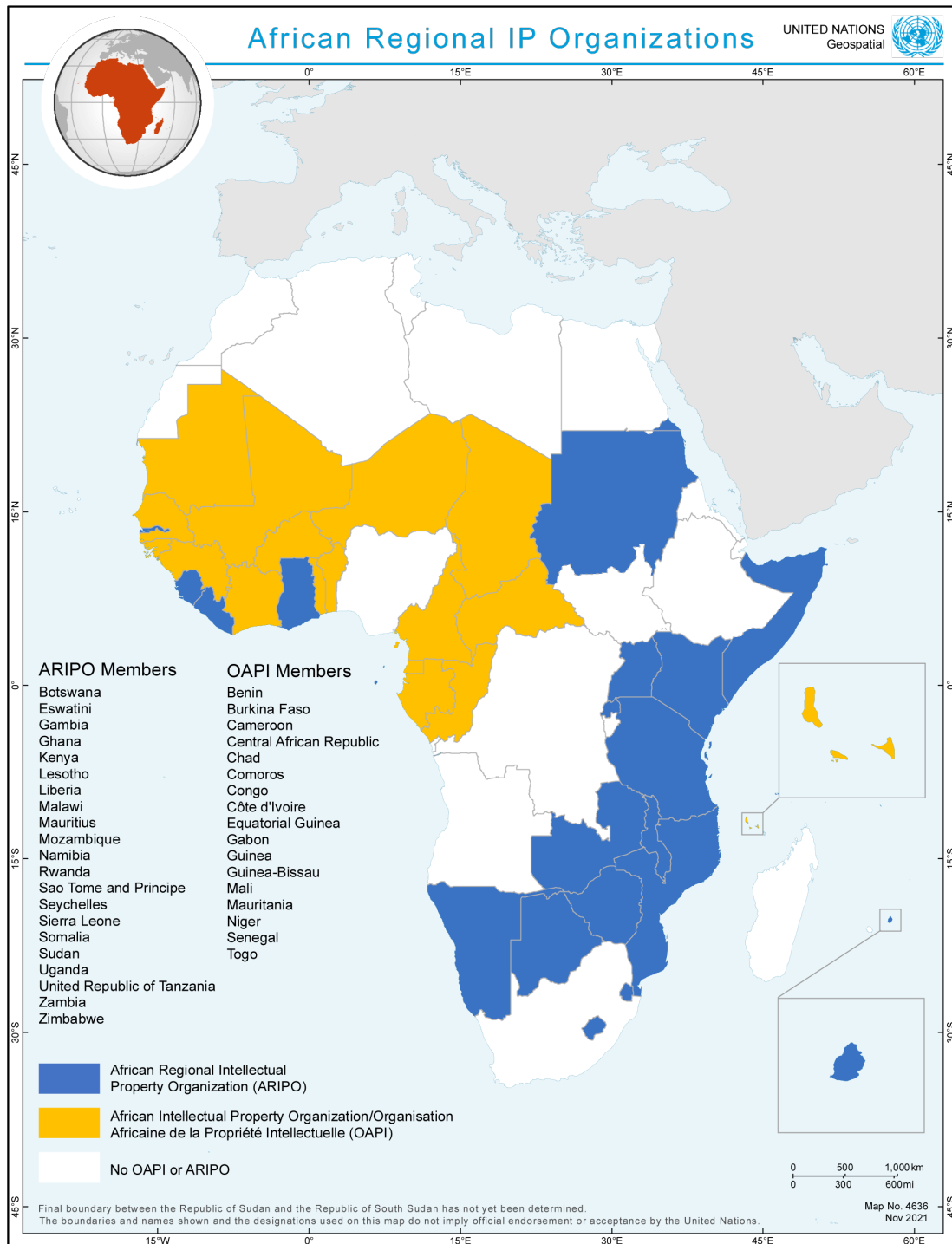
World Intellectual Property Organization. *World Intellectual Property Indicators 2020*. Geneva, 2020.

World Trade Organization. *Agreement on Trade-Related Aspects of Intellectual Property Rights*. Geneva, 1994.

World Trade Organization. Compulsory licensing of pharmaceuticals and TRIPS. No date. Accessed on 8 August 2022.

World Trade Organization. *World Trade Report 2020: Government Policies to Promote Innovation in the Digital Age*. Geneva, 2020.

Annex: Map of African regional intellectual property organizations



Children using computers at an internet café in Accra, Ghana.

Photo: Jonathan Ernst/World Bank