



# Booklet on Intellectual Property for Fostering Innovation in the Arab Region



Shared Prosperity Dignified Life





Shared Prosperity **Dignified Life**



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# Booklet on Intellectual Property for Fostering Innovation in the Arab Region



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## 1. Introduction

Intellectual property (IP) is one of the most important legal constructs in today's economy<sup>1</sup>. IP plays an important role in society by protecting factors such as human involvement, thereby contributing to the sustainable development of nations, and enhancing innovation and entrepreneurship. It also plays a key role in Research and Development (R&D) management, and in various fields relating to innovation, economy, information and creativity.

IP policies play a vital role in R&D management, and in enhancing innovation and entrepreneurship, to

meet society's global needs. IP relates to the regulation and organization of the main pillars of today's information society and knowledge economy, namely innovation and creativity.

In a world where technology has become so dominant, it is important to understand where intellectual property rights (IPRs) stand, both globally and in the Arab region, to be fully capable of enhancing its role in Arab countries.

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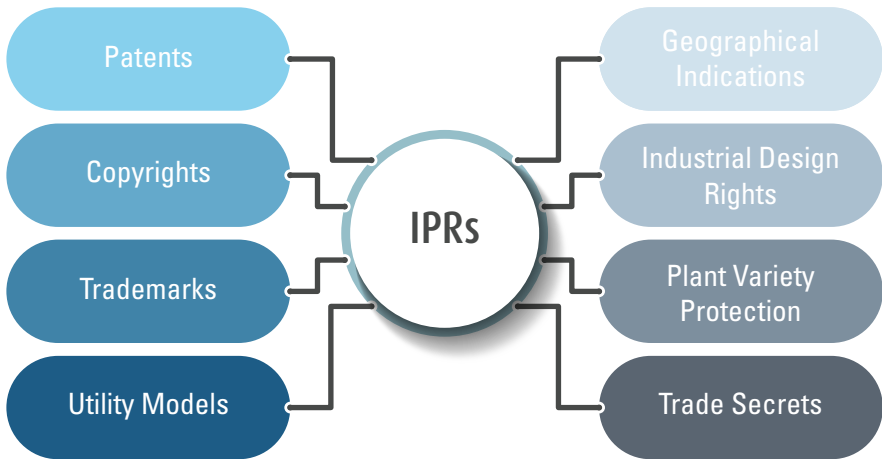
## 2. Description of IPRs

Intellectual property rights, in their different forms, encourage investors to fund research, and provide protection

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<sup>1</sup> This booklet highlights the most important aspects of the ESCWA study on "Intellectual Property for Fostering Innovation in the Arab World" and its report, which sheds light on the importance of intellectual property rights today, particularly in the Arab world.

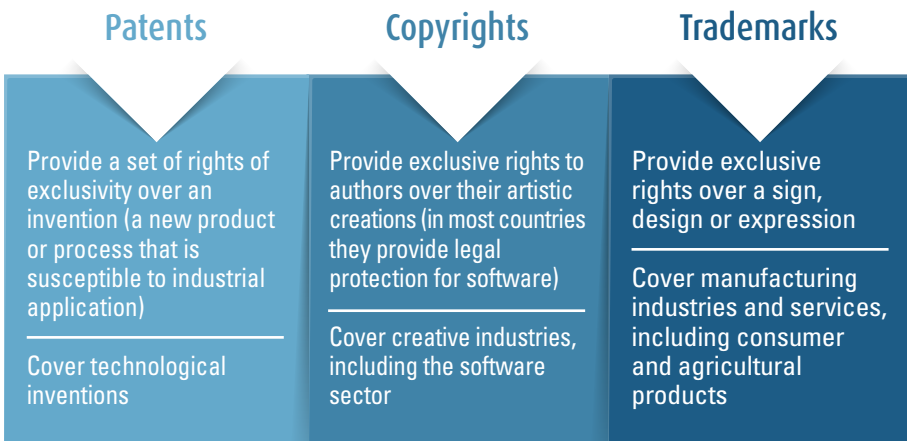
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**Figure 1** Types of IPRs

Source: Compiled by ESCWA.

for their investments in research. Some types of IPRs are more recognized than others in certain countries, with such recognition often being dependent

on economic, social or legal factors. The most commonly known types of IPRs are patents, copyrights and trademarks.

**Figure 2** Definitions of the Most Commonly Implemented IPRs for Innovation: Patents, Copyrights and Trademarks

Source: Compiled by ESCWA.

IPRs provide real protection for intellectual creations in the form of patents, industrial design rights and trademarks. In some countries, patents and trademarks are more significant than other IPRs. The three most important types of IPRs for innovation and technology are patents, copyrights and trademarks.

### 3. International Agreements

Intellectual property rights have existed in their modern form and been recognized in the Arab world since the beginning of the past century. Over the past 20 years, Arab countries have exerted considerable efforts to develop IP legislation, working with the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO), and within the framework of various bilateral agreements. Indeed, all Arab countries are members of international conventions and agreements connected to IP. Parts of the latter's statutes comply with the provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), and this has resulted in radical change following the accession of Arab countries to the WTO. Multiple factors could lead to strengthening IPRs in Arab countries, and transforming the Arab region into a magnet for innovation, international trade and foreign investments.

Over the past five decades, some Arab countries have undertaken thorough and increased codification of intellectual property laws. As a result, IPRs protection has effectively increased, and has resulted in national IP strategies in a few of those countries.

Many Arab countries found it necessary to conform to international standards of protection, and moved towards membership in the international trade community, becoming committed to certain standards and obligations related to IP protection.

The international legal framework for IPRs has mainly been structured by international treaties negotiated by the WIPO. The IPRs protection system set up by TRIPS mainly benefits WTO members, which is why some Arab countries have viewed their accession to the WTO as a vital step towards resolving their financial troubles. Countries that joined had to submit to full scrutiny of their IP protection regimes as part of the accession process, and all developing countries joining the WTO were granted a five-year grace period by TRIPS to implement its provisions. Other major treaties include the Paris Convention of 1883, the Berne Convention of 1886, the Rome Convention of 1961, and the Washington Treaty of 1989. Table 1 lists the Arab countries that have signed these international treaties.

**The Paris Convention** for the Protection of Industrial Property<sup>2</sup>, ratified on 20 March 1883, was one of the earliest intellectual property treaties, establishing a union for the protection of industrial property.

**The Berne Convention**<sup>3</sup>, signed in 1886, concerns the protection of literary and

artistic works and their authors’ rights, providing creators (writers, painters, musicians, sculptors, poets, etc.) with the means to control how, by whom, and on what terms, their works are used.

**The Patent Cooperation Treaty<sup>4</sup> (PCT)**, concluded in 1970, makes it possible to obtain patent protection

Table 1 Membership of Arab Countries in International Treaties				
Country	Paris 1883	Berne 1886	PCT 1970	WTO/TRIPS 1995
Algeria	1 March 1966	Yes	8 March 2000	Observer
Bahrain	29 October 1997	Yes	18 March 2007	1 January 1995
Egypt	1 July 1951	Yes	6 September 2003	30 June 1995
Iraq	24 January 1976	No	-	Observer
Jordan	17 July 1972	Yes	9 June 2017	11 April 2000
Kuwait	2 December 2014	Yes	9 September 2016	1 January 1995
Lebanon	1 September 1924	Yes	-	Observer
Libya	28 September 1976	Yes	15 September 2005	Observer
Mauritania	11 April 1965	Yes	13 April 1983	31 May 1995
Morocco	30 July 1917	Yes	8 October 1999	1 January 1995
Oman	14 July 1999	Yes	26 October 2001	9 November 2000
Palestine	-	No	-	-
Qatar	5 July 2000	Yes	3 August 2011	13 January 1996
Saudi Arabia	11 March 2004	Yes	3 August 2013	11 December 2005
Sudan	16 April 1984	Yes	16 April 1984	Observer
Syria	1 September 1924	Yes	26 June 2003	Observer
Tunisia	7 July 1884	Yes	10 December 2001	29 March 1995
United Arab Emirates	19 September 1996	Yes	10 March 1999	10 April 1996
Yemen	15 February 2007	Yes	-	26 June 2014

Source: WIPO Lex database (2019). Available from <https://wipo.lex.wipo.int/en/main/legislation>.

2 Available from <https://www.wipo.int/treaties/en/ip/paris/>.  
3 Available from <https://www.wipo.int/treaties/en/ip/berne/>.  
4 Available from <https://www.wipo.int/pct/en/treaty/about.html>.



for inventions in a large number of countries simultaneously, by having an international patent application filed by any national or resident of a member-country.

#### 4. IP and R&D, Innovation, Invention, and the SDGs

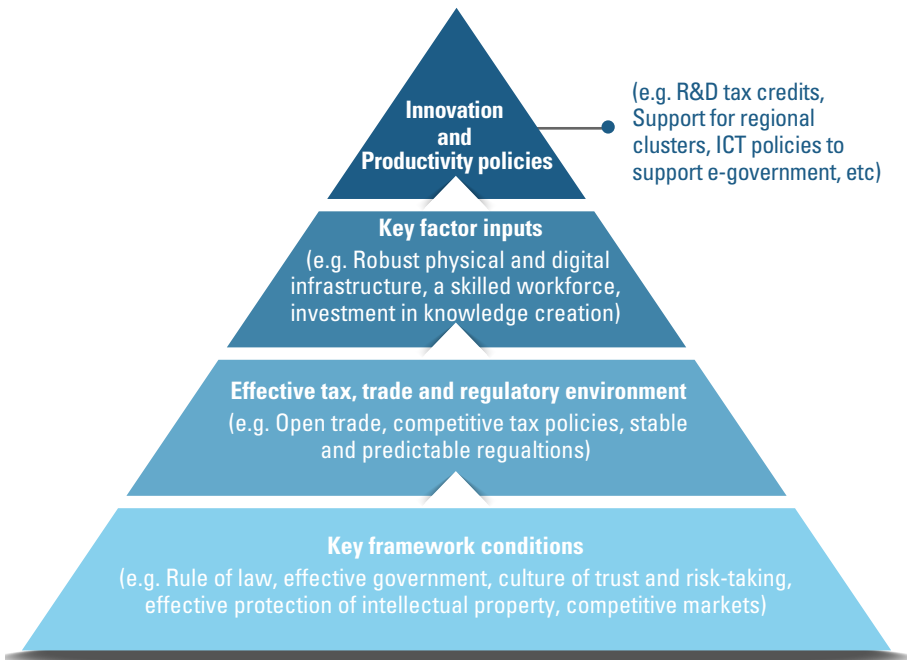
Innovation and technology represent vital means for achieving sustainability, growth and competitiveness, but they are not the only means. Indeed, IP has demonstrated its importance and effectiveness by facilitating market access and enhancing

competitiveness in enterprises focused on innovation and technology.

The process of technology transfer shows the importance of IPRs and of their enforcement, especially when agreements affecting sustainable development contain relevant provisions. Technology transfer, innovation and dissemination create an intrinsic link between IP and development.

Even though IP is territorial and innovation is global, the IP system makes an important contribution to the creative and innovative sectors of a country's economy by

**Figure 3** The Economic Growth Policy Pyramid



**Source:** Ezell, Stephen J., Robert D. Atkinson and Michelle A. Wein (2013). *Localization Barriers to Trade: Threat to the Global Innovation Economy*. Washington D.C.: Information Technology and Innovation Foundation (ITIF), p.58. Available from <http://www2.itif.org/2013-localization-barriers-to-trade.pdf>

encouraging investment in R&D. For this reason, in industrialized countries, IPRs are considered part of the infrastructure supporting investments in R&D and innovation, since the protection they provide can positively affect economic growth by attracting foreign technology in the form of capital goods. Figure 3 shows how IPRs accompany the innovation process throughout every stage, from the moment a new idea is generated up until it reaches the marketplace.

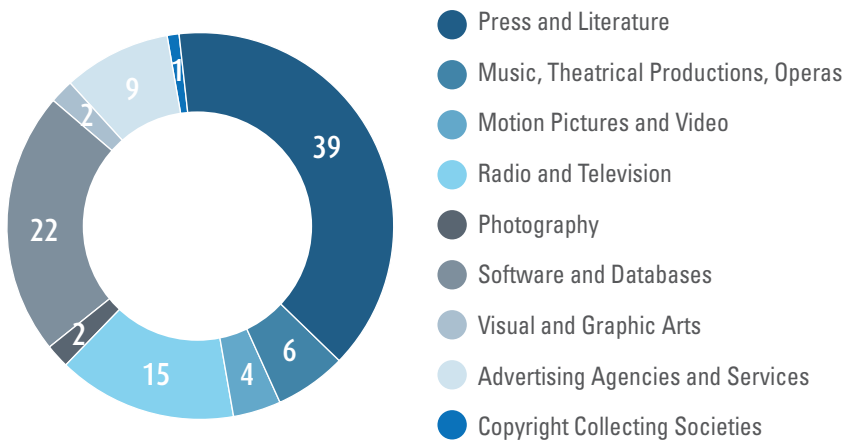
The Sustainable Development Goals (SDGs) aim to achieve a set of economic, social and environmental objectives. Innovation and technology represent the means for achieving sustainability, growth and competitiveness, and their diffusion, protection and promotion play a critical role in achieving many of the SDGs.

The effective use of IP tools such as patents can facilitate market access and lead to the success of an innovation. It enhances competitiveness for everyone, and particularly technology-based enterprises. The major contribution of IP to development leads in turn to economic growth, and contributes to both the GDP and job creation.

### 5. The Contribution of Copyrights and Patents to Innovation

Copyrights affect multiple sectors and industries, such as educational research, music, art, and all types of publications, including most importantly databases and software. Those sectors are integral to a country's Gross

**Figure 4** Contribution of Core Copyright Industries to GDP, by Industry



**Source:** World Intellectual Property Organization (WIPO) (2014). WIPO Studies on the Economic Contribution of the Copyright Industries: Overview. Geneva: WIPO. Available from [https://www.wipo.int/export/sites/www/copyright/en/performance/pdf/economic\\_contribution\\_analysis\\_2014.pdf](https://www.wipo.int/export/sites/www/copyright/en/performance/pdf/economic_contribution_analysis_2014.pdf).

Domestic Product (GDP), and represent a source of employment and income. This is why more than half of the total contribution of copyright industries to employment and the GDP comes from core copyright industries.

Patents are known to stimulate innovation, as well as economic and technological development. They represent a defense against imitation and a mechanism of appropriation. Patenting allows the achievement of balance between knowledge diffusion and knowledge appropriation. Under the TRIPS-WTO regime, enterprises that invest in R&D and patent their innovations have an absolute advantage over others.

Patents provide IP protection to inventions with industrial applicability, as opposed to inventions designed solely around theoretical concepts and ideas,

and therefore cover potential future innovations. Table 2 shows the total number of patents granted in selected countries in 2011 and in 2016/2017.

## 6. IP and Women

There is a world-wide gender gap in IPRs, as women are statistically less likely to hold patents than men. This issue is important because of its relationship to various other factors. Thus, it can have a negative impact on economic growth and on women’s empowerment, as well as affect the success rate of female entrepreneurs. WIPO provides statistics on patent applications that shed light on the situation of women in this regard. It is important to acknowledge the shift in the percentage of women-filed patent applications that occurred in 2000 and 2018. The rate shifted upwards

**Table 2** Total Number of Patents Granted in Selected Countries

Country	Resident	Non-Resident	Resident	Non-Resident
Year	2011		2016/2017	
Egypt	61	422	72	378
Jordan	15	25	4	115
Lebanon	53	252		
Morocco	126	867	74	339
Saudi Arabia	17	235	368	411
United Arab Emirates	2	98		

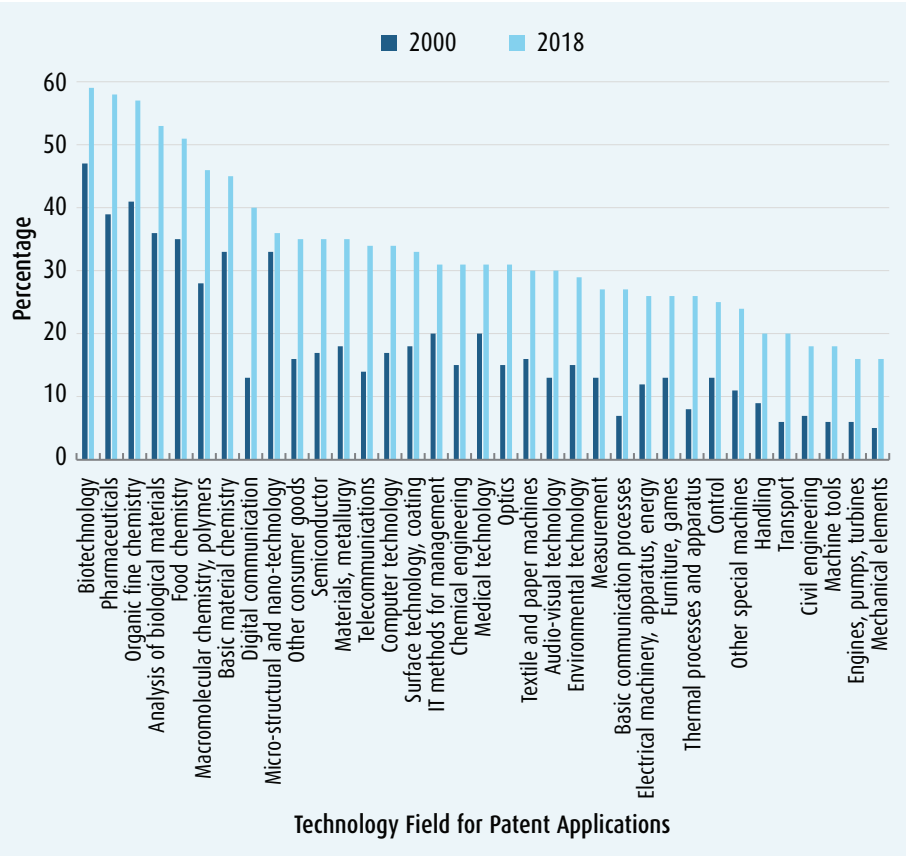
**Source:** WIPO statistics database (2019). Statistical Country Profiles. Available from [https://www.wipo.int/ipstats/en/statistics/country\\_profile](https://www.wipo.int/ipstats/en/statistics/country_profile).

in different working sectors, with a noticeably higher increase in medical sectors, such as the pharmaceutical, biotechnology, chemistry and macromolecular sectors.

Figure 5 shows the share of patent applications per technology that include at least one woman inventor for the years 2000 and 2018.

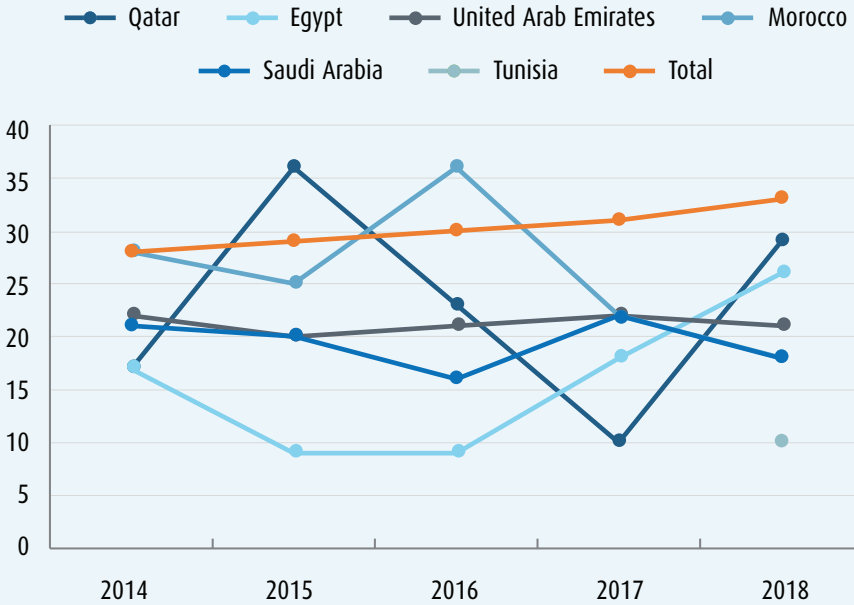
Some studies have shown that even women working in STEM fields do not participate and benefit from the patent system. Indeed, they are less likely to commercialize their inventions and discoveries, and less likely to market themselves to potential partners. Social barriers still exist that prevent women from participating in the patenting system.

**Figure 5** Share of Patent Applications with at Least One Woman Inventor, by Technology



Source: WIPO statistics database (2019). Available from <https://www.wipo.int/ipstats/en/>.

**Figure 6** Share of Patent Applications with at Least One Woman Inventor in the Arab Region, 2014-2018



Source: WIPO statistics database (2019). Available from <https://www.wipo.int/ipstats/en/>.

Figure 6 includes data from WIPO for six Arab countries, namely Egypt, Morocco, Qatar, Saudi Arabia, Tunisia and the United Arab Emirates, showing the increase of women's share in patent applications.

International organizations and national governments seek to empower women through IP knowledge, by supporting inventors and entrepreneurs, and by raising awareness about women's issues, innovation and IP, both worldwide and in Arab countries.

## 7. Successful Case Studies from the Arab Region

Intellectual property in the Arab world has evolved over the years. Some Arab countries have signed international agreements and created national strategies to meet international guidelines, while others have conducted IP policy according to their own vision and plans. Below is a summary of case studies conducted in four Arab countries, as included in the "Intellectual Property for Fostering Innovation in the Arab

World” report, which highlights the strategies adopted by each country in accordance with their own administration, enforcement and management of IPRs.

1. EGYPT

**Table 3.** Characterized Efforts in Egypt

Administration	Enforcement	IPRs Management
<ul style="list-style-type: none"><li>• Sustainable Development Strategy for 2030: Innovation and Knowledge</li><li>• Law 82 of 2002</li><li>• TRIPS Agreement</li><li>• WIPO Party</li><li>• Egyptian Patent Office (EGPO)</li></ul>	<ul style="list-style-type: none"><li>• Cairo University</li><li>• American University in Cairo</li><li>• Academy of Scientific Research and Technology (ASRT)</li><li>• -----</li><li>• GII ranked 92/129 in 2019</li><li>• GII ranked 62/129 in knowledge and technology outputs index.</li></ul>	<ul style="list-style-type: none"><li>• Agricultural Research Center (ARC)</li><li>• Technology and Innovation Center (TIC)</li><li>• Science and Technology Development Fund (STDF)</li><li>• Technology Transfer Office (TTO)</li><li>• Misr El Khair Foundation (MEK)</li></ul>

Source: Compiled by ESCWA.

2. LEBANON

**Table 4.** Characterized Efforts in Lebanon

Administration	Enforcement	IPRs Management
<ul style="list-style-type: none"><li>• Commercial and Industrial Property Law No. 2385 of 1924</li><li>• Protection of Literary and Artistic Property Law No. 75 of 1999</li><li>• Patent Law No. 240 of 2000</li><li>• Member of : Berne Convention / Paris Convention / WIPO Convention</li><li>• Lebanese Copyright Law</li><li>• MSMEs, Startups</li></ul>	<ul style="list-style-type: none"><li>• Registration of rights at the IPPO</li><li>• Intellectual Property Protection Office (IPPO)</li><li>• -----</li><li>• GII ranked 88/129 in 2019</li><li>• GII ranked 68/129 in creative output index</li></ul>	<ul style="list-style-type: none"><li>• National Council for Scientific Research (CNRS)</li><li>• American University of Beirut (AUB)</li></ul>

Source: Compiled by ESCWA.

### 3. MOROCCO

**Table 5.** Characterized Efforts in Morocco

Administration	Enforcement
<ul style="list-style-type: none"> <li>• The protection of industrial property at the national level is governed by the provisions of Law No. 17/97 as amended and supplemented by Law No. 31/05 in 2006 and Law No. 23/13 in 2014</li> <li>• Law No. 2/00 20016 on copyright and related rights</li> <li>• OMPIC: holds the national register of industrial property and the Central Trade Register</li> <li>• Member of 16 international treaties on IP</li> </ul>	<ul style="list-style-type: none"> <li>• Considered a customs offense</li> <li>• European Patent Validation</li> <li>• Budapest Treaty on Microorganisms</li> <li>• -----</li> <li>• GII ranked 74/129 in 2019</li> <li>• GII ranked 61/129 in infrastructure index</li> </ul>

Source: Compiled by ESCWA.

### 4. SAUDI ARABIA

**Table 6.** Characterized Efforts in Saudi Arabia

Administration	Enforcement
<ul style="list-style-type: none"> <li>• Saudi Vision 2030 : Targets for Saudi Arabia to shift from an oil-dependant to a knowledge-based economy</li> <li>• First Patent Law issued by Royal Decree No. M/38 of 1989</li> <li>• GCC member of many WIPO-administered and related treaties, mainly concerned with PCT</li> </ul>	<ul style="list-style-type: none"> <li>• Saudi Authority for Intellectual Property (SAIP)</li> <li>• Saudi Patent Office (SPO)</li> <li>• King Saud University</li> <li>• King Abdulaziz University</li> <li>• King Fahd University of Petroleum and Minerals (KFUPM)</li> <li>• King Abdulaziz City for Science and Technology (KACST)</li> <li>• BADIR Program for Technology Incubators</li> <li>• -----</li> <li>• GII ranked 68/129 in 2019</li> <li>• GII ranked 29 in human capital and research index</li> </ul>

Source: Compiled by ESCWA.

8. SWOT Analysis

The SWOT analysis provides policymakers and stakeholders, who take part in the process of IPRs generation and administration in the Arab world, with a tool to evaluate their IP systems and to explore their options, so as to continue fostering innovation

and help achieve the SDGs.

The analysis reveals the balance between internal resources and obstacles when it comes to IP in the Arab world as a whole, and highlights external opportunities and risks. Its results can be of great use for long-term planning, and for exploring options and possible courses of action.

Table 8. SWOT Analysis Diagram for the Arab Region

Strengths	Weaknesses
<div>1. Qualified human resources with high levels of creativity/innovation.</div> <div>2. Funding readiness from the Government, business angels, venture capitalists, and the private sector.</div> <div>3. IP laws compliant with major international principles.</div> <div>4. Successful tech startup ecosystem, with a high proportion of startups founded or led by women.</div>	<div>1. Absence of national IP strategies.</div> <div>2. Weak management and enforcement of IPRs.</div> <div>3. Low expenditures on R&amp;D.</div> <div>4. Lack of IP awareness/culture in society/school/university.</div>
Opportunities	Threats
<div>1. Transforming oil-based economies into knowledge-based economies and investing in innovation/technology/R&amp;D.</div> <div>2. Signing technology transfer agreements and fostering the innovation process.</div> <div>3. Harmonizing all or some IP laws in the pan-Arab market.</div> <div>4. Achieving the IP-related provisions of national development plans/strategies/visions.</div>	<div>1. Political and economic unrest leading to a brain drain.</div> <div>2. TRIPS-Plus-like provisions applied to the detriment of local interests.</div> <div>3. Inability to meet all international commitments.</div> <div>4. Innovative projects nurtured locally leaking/moving abroad due to the absence of commercial channels.</div>

Source: Compiled by ESCWA.



## 9. Strong versus Weak IP

The dilemma for Arab countries, when it comes to strong versus weak intellectual property rights, is whether strengthening the IP system will have a positive impact on their economy, or will create obstacles and increase their economic burdens.

Strong IP attracts local and foreign inventors, as it offers them protection for innovations on a higher level, as both a guarantee for their investments and an assurance of exclusivity. The role of IP is to stimulate innovation through the protection it provides to rights-owners. Achieving strong IP protection requires the creation of national policies focused on attaining international standards and integrating IP.

Weak IP, on the other hand, does not provide protection for innovations, which leads to unlimited access to information and knowledge dissemination. If the standards of IP protection are weak, industries based on IPRs may not evolve fully. However, having a strong IP system is not conducive to economic development when the costs of protection outweigh its benefits. IP can be more harmful to users and potential future creators and inventors than it is beneficial to current creators and copyright owners.

Some countries do not strengthen their IPRs due to the complexity of this system

and the high costs it entails. One solution for such countries would be to create a balanced IP strategy, strengthening specific domains, where added value is assured, while maintaining their flexibility in others.

## 10. The Way Forward

Arab countries should enhance their research and development systems, and should formulate and adopt innovation and intellectual property policies and strategies, to diversify and boost their economies. To foster innovation, an efficient IP system should be based on a solid legal framework, joint efforts between the private and public sectors, and clear links between local and international agendas. Such a system would promote technology cooperation by enabling technology transfer.

The following are selected recommendations for enhancing IP systems in the Arab region.

### The IP Generation:

- a. Teaching IP at schools and universities, and holding awareness campaigns and competitions to encourage creativity and innovation;
- b. Organizing specialized training programs for researchers, innovators, and public officials working in IP, technology transfer or copyright offices;

- c. Instituting IP policies in universities, research organizations, incubators and accelerators;
- d. Offering IP information services to facilitate research, for competitive intelligence purposes.

### **Securing IPRs:**

- a. Instituting modern IP offices (IPOs) that abide by certain automation standards in the administration of IPRs, with financial and human resources;
- b. Creating linkages between all administrations that play a role in the IP system, and with regional and international IPOs;
- c. Enacting improved IP laws, while taking into consideration the public interest of each Arab country, in compliance with international obligations and regional cooperation agendas;
- d. Providing fiscal incentives for creators and inventors, both men and women, under specific criteria.

### **Enforcing IPRs:**

- a. Instituting IP-specialized courts, at least at the trial court level;
- b. Forming a group of lawyers in each Arab country specialized in drafting patents, to support and assist researchers and innovators in drafting their own patents;
- c. Training judges, lawyers and security forces on IP issues;
- d. Defining mechanisms for

coordination and collaboration among various entities involved in IP, such as IP, copyright and technology transfer offices.

### **Commercializing IPRs:**

- a. Implementing a strong industry/entrepreneurs/academia/R&D/MSMEs collaboration policy;
- b. Clarifying the role of IPOs and technology transfer offices (TTOs) in encouraging business communities to use IP professionally;
- c. Providing IP support services to SMEs, particularly those that are focused on high tech and are export-oriented.

### **Regional Collaboration:**

- a. Establishing regional databases for inventions and patents, for the benefit of Arab countries;
- b. Agreeing on common Arabic terminology relating to intellectual property, to facilitate cooperation, coordination and the exchange of experiences and success stories in the Arab region;
- c. Inviting international organizations to maximize the benefits of services provided in the fields of IP and innovation;
- d. Having regional and international organizations prepare analytical studies and highlight best practices for Arab countries, in research, development and innovation (RDI); IP systems; and digital copyrights.



